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ABSTRACT

The existing vocational education delivery systems for exceptional students (grades 9-12) in Orange County, California, were evaluated. In the first phase, a needs assessment survey was developed to identify vocational education programs/classes available for handicapped students through sheltered workshops, high schools, community colleges, and regional occupational programs. Findings revealed a wide range of services for nonhandicapped students, but limited access for handicapped students due to a number of factors, including lack of regular program modification, placement of students in vocational education classes with little or no assessment data, and lack of coordination of services. Phase II included updating job market analyses. Results revealed that the use of computers and sophisticated electronic equipment will help physically disabled persons particularly, although the severely handicapped students are being trained for jobs that have bleak outlooks. Major conclusions pointed to the need to combine occupational skills with basic skills and to promote good work attitudes and reliability. Sample survey forms are appended. (CL)

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ORANGE COUNTY DEPARTMENT OF EDUCATION

EMPLOYMENT AND TRAINING OPPORTUNITIES FOR HANDICAPPED SECONDARY STUDENTS

A SPECIAL STUDY

EC 160881

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A STUDY OF THE RELATIONSHIP OF VOCATIONAL EDUCATION SYSTEMS TO THE LOCAL JOB MARKET FOR INDIVIDUALS WITH EXCEPTIONAL NEEDS

Caryl J. Miller
Project Director

Prepared under Grant No. 30-03651-0000-82
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FOREWORD

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EXECUTIVE SUMMARY

A STUDY OF THE RELATIONSHIP OF VOCATIONAL EDUCATION SYSTEMS FOR INDIVIDUALS WITH EXCEPTIONAL NEEDS TO THE LOCAL JOB MARKET

Scope of Study

Currently vocational education programs are attempting to address job market expectations but have not given attention to specific vocational training needs of the handicapped. The purpose of this study was to examine existing vocational education delivery systems available for secondary individuals with exceptional needs in terms of how these systems relate to local occupational demands. The long-range goal of this study was to initiate county-wide cooperation for future program planning on behalf of the handicapped. Project activities included:

- Formation of an Ad Hoc Committee composed of educators, representatives from rehabilitative agencies, local business people and other community members;
- Establishment of a local interagency agreement between Orange County Department of Education, Department of Rehabilitation and Regional Center;
- Investigation of vocational delivery services offered in Orange County's secondary schools, community colleges, regional occupational programs and sheltered workshops;
- Identification of uniform standards and competencies for handicapped individuals being mainstreamed into employment and training programs;
- Completion of job market analyses of over twenty occupational cluster areas to include more than two hundred job titles as they relate to the handicapped;
- Definition of entry-level academic, social, motor and physical competencies required for each job title;

- Exploration of procedures for adapting computerized job banks to store available job titles according to specific handicapping conditions;
- Provision of feedback and/or results to educators, employers or any other person who has decision-making responsibilities regarding vocational education for handicapped students; and
- Generation of a sense of unity and growth between local educators and industry.

The study consisted of two phases. PHASE I included the development and dissemination of a needs assessment survey which identified vocational education classes/programs available for handicapped students, grades 9-12. This investigation of vocational services addressed all high schools, community colleges, regional occupational programs and sheltered workshops in Orange County. PHASE II involved an extensive survey of the local, state and national job markets as they pertain to the handicapped. These surveys included an investigation of over twenty occupational cluster areas (fifteen to twenty job titles under each cluster area). Research also encompassed prerequisite skills necessary for the handicapped to enter specific job positions, as well as a list of disabled persons who could be accommodated by industry. The purpose of PHASE II was to ensure that the identified vocational programs/classes in PHASE I represented the anticipated employment demands and options for the handicapped. Research data from both phases were analyzed and compared. In addition, a computer program was developed to adapt existing job banks to include jobs appropriate for the handicapped.

PHASE I

Although a wide range of vocational programs/classes is available at the high schools, regional occupational programs (ROP), and community colleges, these services are not readily accessible to the handicapped. Several contributing factors include: (a) lack of regular program modifications; (b) lack of assistance to regular vocational education teachers; (c) placement of students in vocational classes without any assessment of student interests, capabilities and functional limitations; and (d) minimum coordination of services among all surveyed sites except between the high schools and ROPs. The highest percentage of handicapped students were enrolled in trades/industry and occupational programs, while the lowest numbers were found in technical and health programs.

The majority of agencies reported that ten or less handicapped students received jobs per semester as a result of their enrollment in vocational classes. The identified gap between schools, industry and community agencies is a major reason for these poor employment figures. This lack of communication has reflected problems in areas such as joint planning, cooperative use of resources, advocacy for the handicapped and budget limitations. Another reason is that the talents and abilities of handicapped pupils are not being matched with the most appropriate employment and training programs. Furthermore, these students are not being guided into the anticipated growing fields of the service and health areas.

PHASE II

The future job market for the handicapped looks very promising, especially if they have general education skills, good work attitudes and are productive workers.

The sophisticated computers and other electronic equipment will further simplify and routinize work tasks. This will open many doors for the disabled, especially the physically impaired. Service areas such as fast foods, custodial, hotel/motel, child care, convalescent and hospital care are constant and growing occupations. The handicapped can do well and are usually accepted in these entry-level positions. However, these people are not being counseled on the promotional capabilities of such entry-level positions (i.e., from busboy to baker).

On the other hand, the majority of the more severely handicapped population are being guided and trained for jobs in trades and industry (i.e., bench assemblers) and some office occupations (i.e., filers) that will be non-existent or geographically inaccessible within five to ten years due to high technology such as robotics and relocation of major manufacturing firms. Furthermore, the learning disabled cannot possibly compete with the high quality labor force for the small percentage (7%) of high technology occupations available. Such jobs demand a broad knowledge and analytical base, heavy involvement with computers and flexibility to adapt to rapidly changing technical content.

Two major themes underlined all project research data: (a) occupational skills must be combined with basic skills; and (b) a good work attitude and reliability are often more desirable than occupational skills training. Based on this information, a solid basic education and attitude building program is more important for the low functioning individual than a narrow vocational preparation. Ideally, the two should be merged from 6th grade or even lower. Only with a better assessment of student capability, as well as knowledge of job requirements and occupational demands, can the handicapped stay in the running.

I. INTRODUCTION

Statement of the Problem and Hypothesis

The intent of this study was to examine existing vocational education delivery systems available for individuals with exceptional needs, grades 9-12. It was based on the assumption that these services are not effective because of program duplication, fragmentation, inefficient use of limited resources, a mismatch of vocational training in the schools and job entry requirements, as well as labor market demands.

The proposed study examined the following hypothesis: vocational education programs and services for the handicapped, grades 9-12, can be upgraded if: (a) appropriate needs assessment data are available; (b) county-wide cooperation for planning exists; and (c) an analysis is provided of the relationship between vocational education delivery systems and local occupational demands.

Benefits

The assessment of current employment and training services will provide administrators, specialists, teachers and training supervisors the necessary ingredients to match student competencies to expected job performance. Persons who have decision-making responsibilities regarding vocational education for handicapped students will be able to upgrade existing programs as a result of the following information:

- Guidelines for mainstreaming handicapped students into least restricted vocational programs;
- Curricular and/or environmental modifications of vocational programs, and;
- Task analysis and/or defined competencies necessary to complete related job tasks.

Background or History of the Problem

Related statistics from the 1980 census indicate there are around

4.7 million gainfully employed disabled workers who make up 5% of the total work force (100 million). About 5 million disabled persons and their dependents receive nearly $22 billion a year in social security benefits.

Legislation mandates that the local educational agencies provide "vocational education, career education or work experience education, or any combination thereof, in preparation for remunerative employment, including independent living skill training for pupils in grades 7-12. . ." (SB 1345, Sec. 23.5; and amended Education Code 56345). In addition, Title 5, California Administrative Code (Section 3051.14) requires that "specially designed vocational education and career development" be provided for individuals with exceptional needs. Such activities may include, but are not limited to, assistance in development of vocational competencies and job seeking/keeping skills, establishment of work training programs and assistance with job placement/maintenance.

The Vocational Education Amendments of 1976 (P.L. 94-482) place a considerable burden on the state and local educational agencies to engage in planning, evaluation and accountability. In addition, AB 3075, Chapter 45, "Career and Vocational Education Programs and Funding" (Section 56450) mandates that the Superintendent of Schools shall annually update and disseminate information to:

> "include descriptions of effective methods for coordinating career and vocational education services delivered by all the following, but not limited to, secondary schools, regional occupational centers and programs, community colleges, regional centers for the developmentally disabled, sheltered workshops, programs under the Comprehensive Employment and Training Act. . ."

Dr. Ken Karr, Career Consultant, in collaboration with the California Advisory Council on Vocational Education, presented an analysis of vocational education programs and services for students with exceptional needs in California in the paper, Current Status of Progress Toward Service People with Disabilities - Bridges Over Barriers (1980). In the publication, Dr. Karr states that "while progress has been made, there is still a need to address many existing barriers which prevent the handicapped from receiving services they must have to be employable." A need for continued study was suggested which would focus on, but not be limited to: (a) a more complete demonstration of which programs are working to adequately prepare the handicapped for employment; and (b) how many handicapped youth and adults have been served or are being served in vocational education programs. There are multiple vocational education delivery systems available in Orange County to persons 16-years-of-age and over. These services, except a few, do not specifically address the exceptional needs of the handicapped. If these needs were confronted, then the unemployment and welfare statistics of this population would not be so overwhelming.

The primary responsibility of the school is to provide educational services to students. As indicated in this section, state and federal laws mandate local educational agencies to provide special education students with appropriate information and salable skills necessary to make effective transfers into work/learning environments. According to the historical background provided, it would appear that the handicapped individual is not being adequately prepared by the public schools for the real world of work.

Review of Related Literature and Research

A review of literature included a search of all related resources available through ERIC (Educational Resources Information Center), the National Center for Research in Vocational Education, VOICE (Vocational and Occupational Information Center for Educators), California Dissemination Center for Career Education, the Illinois Network of Exemplary Occupational Educational Programs for Handicapped and Disadvantaged Students, and the Dayle McIntosh Center, a California information clearinghouse for disabled adults. In addition, a variety of conferences and meetings were attended to secure appropriate material. From these lists of available resources, about twenty publications appeared to have solid and valuable information which supported the research grant but did not duplicate its efforts. Refer to the Bibliography "Books and Articles" for a listing of these references.

Thirty-four local educational agencies in California are currently conducting "State Department of Education's Handicapped Youth Model Site/Work Ability Projects, Ages 17-21." The primary goal is to demonstrate a cost effective employment and training model which will enable special education students to obtain and keep unsubsidized employment in the private sector. The focus of the model is to improve the attitudes of employers, parents, teachers and handicapped students with regard to the employability of handicapped secondary students. Project objectives include:

- providing handicapped secondary students with an understanding of job seeking skills, expected job behavior and available employment opportunities through classroom training;
- improving the employability of the handicapped students by enabling them to demonstrate their employment skills through subsidized or unsubsidized work experience;
- developing a coordinated and cost effective service delivery system to meet the employment and training needs of the handicapped secondary students by promoting interagency cooperation among state and local agencies which serve this target group; and
- improving the secondary curriculum for handicapped students to relate to employers' requirements.

The model-site projects can benefit and utilize all information gained from this study in preparing and finding employment positions in the private sector for their target groups. There is no duplication of services here, only supplemental information to assist in the success of the model-site projects.

The California State Department of Education funded two unsolicited special studies in 1980-81. The purpose of the first study, Special Education Training Needs of Vocational Teachers, was to promote better preparation of vocational teachers to meet the needs of special education students. This study identified the components necessary for pre-service and inservice training. The second study, Vocational Preparation for Special Education Students at the Secondary Level, described the current practices of vocational education based on special education pupils' individual education plans in secondary school settings. It also described the coordination of vocational services between public agencies and secondary schools. Although both reports are related to vocational education and the handicapped, neither analyzed the relationship of current vocational delivery systems to labor market requirements and trends. Vocational Preparation for Special Education Students at the Secondary Level focused its findings on special day classes, resource specialists and community agencies. The Orange County Department of Education Special Study took one more step and concentrated on current vocational programs as they relate to occupational demands.

A third study, Handicapped Health Careers Student Ability/Job Task Match, is a two-phase project funded by the Vocational Education Unit, State Department of Education (1982-93), and is being conducted by the North Orange County Regional Occupational Program. The overall goal of the project is to increase employment of handicapped students in the various health careers. An activity of this project is to gather all the data needed by instructors and counselors to assist handicapped students to reach this goal. Specific project objectives include:

- providing awareness of various learning modalities in educating the handicapped being trained for specific jobs;
- developing a resource and information guide which will allow educators to successfully teach and help guide students into appropriate career opportunities which will lead to employment;
- implementing a master training program for those educators working with handicapped students; and
- disseminating to handicapped persons interested in health careers information concerning the availability of training and employment.

The first phase included field-testing handicapped students in selected health careers during the summer of 1982. In addition, job title information sheets entitled, "Guide to Vocational Placement for the Handicapped Person in Health Careers" were developed, distributed and field-tested. The guide sheets listed job titles in the health field along with individual capabilities necessary for persons with specific handicapping conditions to obtain employment. Job titles were rated on a scale of one to four with four having the greatest employment possibilities. All resources utilized to date by medical instructors have been compiled and summarized. Topics include:

- Attitudes
- Legalities
- Student Placement/Employment
- Research
- Individualized Training Plan Rationales
- Summary of Field Tests
- Resources

This project not only complements the Orange County Department of Education Special Study, but offers excellent methods to expand investigation of the job market in other occupational cluster areas.

Lastly, an Occupational Computer Program has been developed by the Riverside County Superintendent of Schools. The computerized system is designed to be used by career counselors, vocational evaluators, job placement specialists and rehabilitation counselors. The purpose of this computer program is to:

- systematically establish a file of local employers and their entry-level jobs;
- systematically establish a file of local vocational training programs;
- make available the Dictionary of Occupational Titles;
- analyze vocational interest and ability information gathered on a client and match this information to the Dictionary of Occupational Titles file, the employer/job file and the training program file; and
- make available a vocational ability/work motivation analysis for clients incapable of competitive employment.

The Riverside County program is comparable to a bank of assessment data and occupational titles as matched to student ability and interest; whereas, the Orange County Department of Education Special Study examined the match of vocational training options for the handicapped as related to the job market.

II. METHODS OF THE STUDY

Design

The study was conducted in two major phases. PHASE I included the development and dissemination of a needs assessment survey which identified vocational education delivery systems available for handicapped students in Orange County, grades 9-12. This investigation of vocational services included high school and community college vocational classes, regional occupational programs and sheltered workshops. PHASE II involved a job market analysis of over twenty occupational cluster areas to include investigation of about fifteen to twenty job titles under each cluster. The job market analyses addressed national, state and local demands, as well as supply factors and sources of information. In addition, research encompassed a supplemental questionnaire pinpointing the academic, perceptual, trait skills and physical requirements necessary for each job title. A list of handicapped persons able to be accommodated by the specific job titles was compiled. The information collected during both phases was combined and analyzed. These combined results of the initial needs assessment survey and the job market analyses were computerized and matched to the Dictionary of Occupational Titles (DOT) in terms of general skill categories. With this information it became possible to assess what was necessary to extend such job banks to include specific handicapping conditions.

Included in the study design was the formation of an interagency Ad Hoc Committee. Members included appropriate administrators and vocational education specialists from each high school and community college district in Orange County, State Department consultants, and representatives from the Department of Rehabilitation, Regional Center, Area XI Developmental Disabilities Board, parent organizations and industry. The committee, headed by the Orange County Special Education Coordinator, Career/Vocational Education, met on a bi-monthly basis to:

- establish the necessary climate for a cooperative planning process;

- assist in the procurement of a reliable data base; and
- serve as a communication linkage for the exchange of information among the groups represented.

In addition, a Memorandum of Understanding between State Department of Rehabilitation - Anaheim District, Regional Center of Orange County and Orange County Superintendent of Schools was developed by the Ad Hoc Committee to enhance communication and a commitment to project efforts. A recommendation included in the Memorandum was to compile and distribute an information directory. The "Career Development/Vocational Education Referral Guide" includes the Memorandum of Understanding, key committee members' names, addresses and other supportive materials necessary for county-wide cooperative planning and implementation of this study.

Data Collection Instruments

It was necessary for research and evaluation consultants to develop two data collection instruments. "Special Education/Vocational Education Survey" and "Supplement to Telephone Survey Job Market Analysis." They were prepared to ensure that all standards for the protection of human subjects were observed. All written materials were free of bias and stereotyping on account of sex, race, age, economic status and/or handicap. Surveys were developed in a succinct yet informative format which most people would not be reluctant to complete. The instruments were field-tested and revised before use in the study. The data collection instruments included:

- "Special Education/Vocational Education Survey" (Appendix A)
- "Job Market Analysis Survey" (Appendix B - example of one complete survey)
- "Supplement to Telephone Survey Job Market Analysis" (Appendix C)

The "Special Education/Vocational Education Survey" identifed the following components:

- Employment and training programs available for handicapped students in Orange County;

- Number of handicapped students enrolled in identified employment and training programs according to specific handicapping conditions;
- Types of assistance available for handicapped students enrolled in identified employment and training programs;
- Criteria and/or appropriate prerequisite skills necessary for handicapped students being mainstreamed into identified employment and training programs; and
- Number of handicapped students having received part or full-time employment as a result of the identified employment and training programs.

The "Job Market Analysis Survey" covered the following areas:
- Job titles and descriptions;
- Economic statement regarding trends for the future;
- National, state and local labor supply and demand information;
- Wage, salary apprenticeship and other special information on the field; and
- Recommendations and sources of information.

The "Supplement to Telephone Survey Job Market Analysis" included the following prerequisite skills according to specific job titles:
- Quantitative/numerical skills;
- Communication skills;
- Cognitive skills;
- Perceptual skills;
- Trait skills;
- Physical requirements; and
- List of handicapped persons able to be accommodated by industry.

PHASE I

The Ad Hoc Committee unanimously recommended that all high schools, community colleges, regional occupational programs and state-funded habilitation programs (sheltered workshops) should receive and complete a "Special Education/Vocational Education Survey." These sites were selected because they offer vocational education programs, as well as provide services for the handicapped. This recommendation was then approved by the Orange County school district directors of Special Education at their monthly meeting in October 1981. Refer to Appendix D for a list of agencies who were asked to complete the survey. The selected agencies were first notified of the project's intent and activities through the following:

- a memo and invitation to a general meeting to discuss the project;
- dissemination of information at local meetings; and/or
- telephone calls, personal contacts with those who were not reached via the general meeting or other local events.

The "Special Education/Vocational Education Survey" was mailed to the vocational specialist for the handicapped (or designee) at each agency, with follow-up assistance from the Ad Hoc Committee. Non-respondents were contacted by telephone or personal visitation.

PHASE II

The job market surveys included an analysis of existing vocational and occupational training programs maintained by high schools, community colleges and private postsecondary schools. These studies were conducted by a job market analyst contracted by the North Orange County Regional Occupational Program. The regional occupational programs are required by law to survey the job market. The purpose is to ensure that the anticipated employment demand for trainees in the proposed regional centers and programs justify the establishment of the proposed course of instruction. As this research does not address the specific needs of handicapped individuals, it was necessary to update and revise these job market surveys. The "Supplement to Telephone Survey Job Market Analysis" was developed for this purpose. Over twenty occupational cluster areas were selected by the Ad Hoc Committee. Fifteen to twenty job titles were addressed under each occupational cluster area. These cluster areas and job titles were chosen based on several factors:

- to represent the vocational programs listed in the "Special Education/Vocational Education Survey" (agriculture, distribution/marketing, health occupations, consumer/homemaking, occupational

preparation, office occupations, technical, trade/industry and work experience education);
- growing trade or positive job future;
- accessibility and accommodation of jobs in the area for the handicapped; and
- most common vocational cluster areas entered by handicapped individuals.

About one-half of the job market research was conducted by telephone and the remainder by investigation of current publications and information acquired through the mail. Information was compiled in cooperation with the Employment Development Department, the California Occupational Information System, prospective employers, appropriate vocational education advisory committees and other available sources of labor market information as listed in Appendix E. Data compiled from the job market analyses were stored in the computer program developed by the North Orange County Regional Occupational Program. Over two hundred job titles (as listed in the Dictionary of Occupational Titles) were broken down according to which can be performed by the eleven federal handicapping categories.

Products

The intent of this project was to:
- develop an effective means of collecting vocational education data and planning information for the handicapped, grades 9-12;
- analyze this information in relation to occupational demands; and
- present the results in a format that would provide direction for cost effective and optimum vocational education delivery systems for the handicapped, grades 9-12.

This task was completed as demonstrated by the following products:
- an accessible computer data base of public vocational education training programs available for handicapped individuals, grades 9-12 in Orange County;
- a supplemental notebook which contains a job market analysis of over twenty occupational cluster areas with two hundred job titles specifically addressing the needs of the handicapped; and

- access to a computer print-out of job titles according to the DOT, and handicapping conditions which could best be accommodated by industry.

III. FINDINGS

PHASE I

Vocational Education Programs Available for Handicapped in Orange County

The "Special Education/Vocational Education Survey" was distributed to 17 high schools with 15 returned, 4 regional occupational programs with 3 returned, 7 community colleges with 5 returned, and 8 state-funded habilitation programs with 7 returned. There were 30 returned out of 36 possible.

Table 1

PERCENT OF ORANGE COUNTY SPECIAL EDUCATION STUDENTS
(BY HANDICAPPING CONDITIONS) ENROLLED IN VOCATIONAL EDUCATION CLASSES

Handicapping Conditions	Number of Students in Orange County	Percent of Students Enrolled in Vocational Education Classes
Learning Disabled	15,574 = 54%	27
Speech Impaired	8,659 = 30%	10
Mentally Retarded	1,624 = 6%	14
Multihandicapped	824 = 3%	6
Other Health Impaired	612 = 2%	8
Seriously Emotionally Disturbed	576 = 2%	6
Orthopedically Impaired	491 = 1.9%	12
Deaf	317 = 1%	4
Hard of Hearing	165 = .05%	7
Visually Handicapped	158 = .05%	6
Deaf and Blind	6 = 0%	0
Total	29,006 100%	100

The orthopedically impaired make up 1.9% of the total Orange County handicapped pupil count, yet this population appeared to be mainstreamed into vocational classes at a higher rate (12%) than other groups. The speech impaired, 30% of the total Orange County disabled population, did not participate in vocational classes to the extent as other handicapping categories, but only to the 10% level.

The survey also indicated that the highest numbers of handicapped students were enrolled in the trades and industry field, with work experience education and office occupations falling in line. The programs least populated by handicapped individuals were the technical and health occupations. Consumer/homemaking, occupational preparation and distribution/marketing averaged in the middle. See Table 2.

Table 2

HANDICAPPED STUDENTS ENROLLED IN OCCUPATIONAL CLUSTER AREAS

Occupational Cluster Areas	Number of Students	Percent/ Students
Trades and Industry	1156	25.3
Work Experience Education	929	20.3
Office Occupations	723	16
Consumer & Homemaking	465	10.1
Occupational Preparation	384	8.4
Distribution & Marketing	342	7.5
Agriculture	320	7
Technical	142	3.1
Health Occupations	105	2.3
Total	4566	100%

Least Restrictive Environment/Vocational Education Program Options

The least restrictive environments for the purpose of this study included:

- regular vocational programs;
- adapted vocational programs;
- adapted vocational programs plus remedial services;
- special vocational programs;
- special vocational schools;
- sheltered workshops; and
- vocational training in institutional settings.

Appendix G describes these seven vocational education program options in detail. The study identified various vocational education program options provided by surveyed sites. Table 3 shows that the majority of handicapped students (46%) were enrolled in regular vocational programs/classes with minimum participation in sheltered workshops and institutional settings. There were no special education students enrolled in special vocational schools in Orange County.

Table 3

NUMBER OF HANDICAPPED STUDENTS ENROLLED
BY VOCATIONAL EDUCATION PROGRAM OPTIONS/SETTINGS

Vocational Program Options	No. & Percent of Students Enrolled by Vocational Settings
Regular Vocational Programs	2100 = 46%
Adapted Vocational Programs	1050 = 23%
Adapted Vocational Programs Plus Remedial Services	731 = 16%
Special Vocational Programs	639 = 14%
Special Vocational Schools	0 = 0%
Sheltered Workshops	28 = .6%
Vocational Training in Institutional Settings	18 = .4%
Total	4566 100%

It appeared that adapted vocational programs were available for about one-fourth of the occupational cluster areas across the board. Refer to Table 4. These adaptations included:

- modified curriculum or materials;
- individualized instructions; and/or
- change in working styles and environments.

It was reported that a small percentage of remedial services such as tutorial assistance, teacher aides, team teaching, vocational evaluation and/or extended community involvement were available in the occupational cluster areas. It is indicated in Table 4 that Agriculture and Health occupations are the most accommodating cluster areas for the handicapped, with Technical occupations being the least. The remaining occupational cluster areas are average in adapting vocational programs and/or providing remedial services.

The high school districts were the principal providers of vocational services for the handicapped. The high school districts and regional occupational programs were the only agencies found to consistently provide additional remedial services set in the least restrictive environments.

Table 4

PERCENT OF OCCUPATIONAL CLUSTER AREAS BEING OFFERED BY VOCATIONAL PROGRAM OPTIONS/SETTINGS

Vocational Program Options	Percent of Cluster Areas Offered by Vocational Settings								
* Number of students	Agriculture (N=320)	Distribution/Mktg (N=342)	Health (N=105)	Consumer/Hmemkg (N=465)	Occupational Prep. (N=384	Office (N=723)	Technical (N=142)	Trades/Industry (N=1156)	Work Exp. Ed. (N=929)
Regular Vocational Programs	38	42	34	57	40	51	100	47	29
Adapted Vocational Programs	23	19	17	25	32	19	0	19	21
Adapted Voc. Programs Plus Remedial Services	22	19	33	7	5	15	0	14	17
Special Vocational Programs	17	10	0	7	14	11	0	14	21
Special Vocational Schools	0	0	0	0	0	0	0	0	0
Sheltered Workshops	0	5	8	0	9	0	0	0	12
Voc. Training in Institutional Settings	0	5	8	4	0	4	0	6	0
Total	* N = 4566								

Employment Opportunities for Handicapped Students in Orange County

As indicated in Table 5, the majority of the agencies reported that twenty or less handicapped students were employed each semester as a result of their enrollment in the vocational education classes. It is interesting to note that two of the three responding ROP's indicated that each assisted or found employment for 80-100 students. The regional occupational programs (ROPs) are mandated by law to provide realistic job training which would lead to employment in the immediate community. ROP instructors are closely monitored as to the number of job-entry and upgraded placements of their students.

Table 5

NUMBER OF RESPONSIBLE AGENCIES FINDING EMPLOYMENT FOR SPECIAL EDUCATION STUDENTS

Responsible Agencies	Groups of Students					
	0-20	21-40	41-60	61-80	81-100	Over 100
School Districts	*7	2	1	1		1
R.O.P.s					2	
Community Colleges	2					
Sheltered Workshops	2					1
Total	11	2	1	1	2	2

* To be interpreted as "seven school districts each assisted or found employment for twenty students or less."

Techniques used in assisting students to find part or full-time employment included:

- teaching job-seeking and decision-making skills;
- referring students to rehabilitative agencies, work experience education on campuses and public employment agencies; and
- using Comprehensive Education Training Act (CETA) money for subsidized employment.

The number of agencies using each technique is shown in Table 6.

Table 6

NUMBER OF RESPONSIBLE AGENCIES
USING SPECIFIC JOB-SEEKING STRATEGIES

Strategies to Help Students Find Jobs	Number of Agencies Using Strategies
Decision-making	20
Job-seeking	22
Referral - Spec.Ed. Work Experience	11
Referral - Regular Work Experience	15
Referral - Rehabilitative Agency	16
Referral - Public Employment Agency	13
CETA	14
Other	4
Total	115

PHASE II

Over two hundred job titles were investigated. Potential employers were asked to identify a variety of academic and social skills, as well as the physical requirements necessary for students to perform adequately on the specific job in question. In addition, the job was broken down according to which of the eleven federal categories by handicapping conditions could be accommodated.

Traditionally, the handicapped person has been confronted with severe barriers to employment, such as resistance from industry, competition with more able-bodied persons, restricting visible or invisible impairments, and fear of losing social security benefits, etc. Such restrictions have led these young adults to train for fields of endeavor which are not really relevant to the true job market. This has been reflected overall by their predominance in low-paid, low-skilled positions including food service - kitchen workers, assemblers, packers, general laborers (those persons commonly referred to in the trade as gophers), and janitorial assistants. Industry reported that, on the whole, very few handicapped people are applying for positions other than those mentioned above. On the other hand, the visible and outstanding work done by the Department of Rehabilitation and the Mayors', Governors', and President's Committees on Employment for the Handicapped has resulted in more positive outlook as we move into the Information Age.

All project research indicated that the computer will revolutionize labor markets for the handicapped of Orange County in that:

- The "voice" computer is already with us, permitting opportunities for the visually or orthopedically impaired to be re-evaluated;
- The growth of robotic appliances and adaptive devices will allow functions within the manufacturing area to become accessible to disabled persons skilled in digital or finger control (ability to punch, press or point to numbers or letters on a keyboard);
- Construction fields will open more readily to the moderately orthopedically impaired as prefabricated units become the rule rather than the exception. The perception of the site supervisor needs to also change with the new technology;
- Assemblers/packers will advance a step as robotic-controlled devices replace them. Assemblers need to learn digital control and inspection techniques;
- Electronic assembler/inspector positions or small unit repairers should be promising positions for the right disabled person as these jobs require good sight and dexterity but less mobility;

- The advent of the automated office and automated work area with monitoring devices has opened these areas to the orthopedically impaired with good mental and dexterity skills;
- Medical record clerks will become a viable job option for the handicapped as the use of microfiche and/or computer filing becomes the rule rather than the exception;
- The medical receptionist position should be more open to the disabled as medicine moves deeper into the automated office;
- The office occupations group has been the most innovative and most commonly used as entry into a higher level of work and remains so. Computers and typewriters/word processors/computers with adaptive devices and voice capabilities will open undreamed worlds for all, especially for the handicapped; and
- Graphics and printing trades are rapidly becoming fully automated and will lead to more accommodation for the handicapped - even reading disabilities can be permitted if other skills are good since proof readers or automatic printers will catch the errors.

It is important to note that while computers and other electronic equipment become increasingly sophisticated, it will not be necessary for workers using this equipment to acquire more sophisticated skills. In fact, according to Levin and Rumberger, researchers at Stanford University's Institute for Research on Educational Finance and Governance, high technology is likely to further simplify and routinize work tasks. The strong analytic, communication and computation skills should be sought only by the small number of highly specialized positions for designing and implementing high technology applications. It was found that most special educators were not aware of the principal characteristics of high technology and how these apply to curriculum design for technical education. These characteristics include:

- a broad knowledge and analytical base;
- heavy involvement with computers;
- rapidly changing technical content; and
- systems-oriented emphasis.

Levin and Rumberger contend in a current study that the greatest number of new jobs in this decade will not be in high technology fields but that between now and 1990 "employment growth will favor jobs that require little or no training beyond high school level." Considering this relevant data, the following employment trends and opportunities for the handicapped were identified through the job market studies:

- Orange County's major agriculture product is horticulture/ floriculture and the handicapped have done well in this field. Employment opportunities include laborers, flower growers, floral designers, and nursery workers;
- Child care is a growing field because of working mothers. Some handicapped perform better in this area than non-handicapped primarily due to empathy;
- The handicapped, especially learning disabled, have been readily accommodated by auto parts stores and warehouse inventory departments;
- Jobs such as stock clerks (in some areas for some disabilities), gift wrappers, packagers, adjustment clerks, and courtesy booth clerks appear to be available now and in the future. Some of these areas have not previously been open to the handicapped because they have neither trained nor applied for them;
- Custodial work has already proven a viable field for the disabled;
- Food service has been a traditional field for this population but research indicates they have not striven high enough. Handicapped persons are not being trained or guided from bus boy to baker, dishwasher to cashier; salad-maker to pantry chef, etc.;
- The service area such as workers in hospitals and nursing homes has always been accommodating for the handicapped, but there is resistance from the families of these people because they are not promotional or high paying positions;
- Marine areas are often available for the expert swimmer who shows more strength in the water than on dry land - the underwater photographer has learned to live with his/her handicap; and

- Ironically, the medical field appeared less willing to employ the visibly handicapped because of patient reaction to the impairments; however, there are a few positions for admitting clerks, dietary and central supply aides, as well as convalescent assistants.

The job market analyst, for the purpose of this study, identified and researched over two hundred job titles as they relate to the handicapped. The job market surveys are available at a nominal fee from the North Orange County Regional Occupational Program. (Refer to Appendix B for an example of a job market survey.) These reports also describe in detail entry-level requisites for each job title, as well as which handicapping conditions can be accommodated by the industry. Appendix H summarizes these matrices and also provides the labor market demand for each job title.

IV. SUMMARY, CONCLUSIONS, RECOMMENDATIONS

SUMMARY:

PHASE I

Throughout Orange County a variety of vocational classes are offered at school sites, regional occupational programs and community colleges. The least selection appeared in the sheltered workshop settings. The highest percentage of handicapped students were enrolled in trades and industry programs with the lowest enrollment in technical and health categories.

The range of vocational training opportunities for special education pupils in most high schools, ROPs, community colleges and sheltered workshops appeared to be limited. Recurrent reasons for such limitation were:

- Vocational programs, in schools which are staffed by regular education teachers, often were not modified and/or the regular teachers did not receive assistance from special educators to meet the needs of the handicapped;
- Special educators often enrolled handicapped students in "shop classes," etc., before assessing their interests, capabilities and functional limitations;
- Gaps in services appeared between the special and vocational educators at the high school sites; and
- Little facilitation and coordination of services were apparent among the high schools, community colleges and sheltered workshops; however, high schools and ROPs demonstrated a close coordination of efforts.

The majority of agencies reported that ten or less handicapped students per semester received jobs (which is less than 1% of the target population) as a result of their enrollment in vocational classes. The identified gaps between vocational and special educators, as well as among schools, industry and community agencies, are major reasons for these poor employment figures. This lack of communication has reflected problems in areas such as joint planning, cooperative use of resources, advocacy for the handicapped and budget limitations.

PHASE II

It is important to note here that labor market forecasts have fluctuated considerably during the progress of this study. The unsettled economy was not the only reason for this oscillation, but the forecasters conducting the studies were also responsible. For example, the Xerox Corporation estimated that in 1990 some thirty-six million people will need computer skills to perform their jobs. On the contrary, a current study conducted by Stanford University indicated that the greatest number of new jobs in this decade will not be in high technology fields, nor will high technology demand more highly skilled workers in all areas of the work force. The recent report cited that high technology occupations will account for only seven percent of new jobs created between 1978 and 1990.

Despite contrary labor market forecasts, two major themes underlined all project research data:

- occupational skills must be combined with basic skills; and
- a good work attitude and reliability are often more desirable than occupational skills training.

The future job market for the handicapped looks very promising, especially if they have general education skills, good work attitudes and are productive workers.

The sophisticated computers and other electronic equipment will further simplify and routinize work tasks. This will open many doors for the disabled, especially the physically impaired. Service areas such as fast foods, custodial, hotel/motel, child care, convalescent and hospital care are constant and growing occupations. The handicapped can do well and are usually accepted in these entry-level positions. However, these people are not being counseled on the promotional capabilities of such entry-level positions (i.e., from bus boy to baker).

On the other hand, the majority of the more severely handicapped population are being guided and trained for jobs in trades and industry (i.e., bench assemblers) and some office occupations (i.e., filers) that will be non-existent or geographically inaccessible within five to ten years due to high technology such as robotics and relocation of major manufacturing firms. Furthermore, the learning disabled cannot possibly compete with the high quality labor force for the small percentage (7%) of high technology occupations available. Such jobs demand a broad knowledge and analytical base, heavy involvement with computers and flexibility to adapt to rapidly changing technical content.

A solid basic education and attitude-building program is more important for the low-functioning individual than a narrow vocational preparation. Ideally, the two should be merged from 6th grade or even lower. Only with a better assessment of student capability, as well as knowledge of job requirements and occupational demands, can the handicapped stay in the running.

CONCLUSIONS:

One of the primary goals of secondary and post secondary school programs for the handicapped must be to prepare and place students in productive capacities that will lead to maximum self-sufficiency. Project findings, especially the employment figures, did not support or even highlight the importance of this goal. There appear to be several missing links in the preparation of the disabled population for the working world. First, talents and abilities of handicapped pupils are not being matched with the most appropriate employment and training programs. Second, the training programs are not being linked with the current occupational trends. Considering the labor market data summarized in the prior section, the secondary disabled population, on the whole, is being guided into declining occupations. The lowest percentage of handicapped students are being prepared for the fastest growing and most demanding industries, Technical, Health and Service, while the highest percentage of students are being trained for such declining occupations as Trades and Industry. According to the project surveys, training programs are available in demanding and growing fields, but several factors are apparent with regard to the handicapped:

- Student talents are not being identified and developed to the utmost.
- Teachers and other appropriate guidance and counseling staff are not aware of techniques necessary to match student talents with employment and training programs representing growing and/or constant industries;
- Students are not being guided or placed into productive work situations leading to self-sufficiency; and
- Minimum modifications are being offered for the handicapped enrolled in regular vocational programs, especially at the community college level.

The State Board of Education submitted a report to the legislature in February 1982 which outlined findings and recommendations relating to improvement of career and vocational education programs for individuals with exceptional needs. The report stated that there is evidence of duplication of effort and fragmentation of services. Prior to project activities this evidence was very apparent. Through the efforts of the established Ad Hoc Committee, duplication and fragmentation of services have been kept to a minimal or non-existent level. Representatives from each agency (school districts, ROPs, sheltered workshops, community colleges) met on a regular basis to share existing programs, exchange resources (in some cases, hardware and consultant exchanges), and plan and/or coordinate future events, programs, etc. These meetings also allowed the recipients of federal vocational education funds to exchange planning procedures, products, etc. In addition, non-recipients of funds were given vital information and resources to initiate or supplement their programs without reinventing the wheel.

RECOMMENDATIONS:

The following suggestions for program improvement are based on the findings and conclusions drawn from the data collection:

Administration

- Stress that teachers work with students on employability attitudes above all;
- Stress that teachers teach and infuse basic skills;
- Provide more inservice training for special and vocational teachers to allow exchange and opportunity for classroom adaptations and provision of remedial services;
- Provide techniques and training to teachers preparing infusion of attitude and basic skills training in the special and vocational education classes;
- Relate the employability attitudes and basic skill training to future labor market opportunities through the following activities:
  - provide students with some kind of keyboard training as part of the basic curriculum;
  - provide counseling and guidance staff and appropriate teachers with updated job market information so they are familiar with the most current trends and can transfer that information to their students (job market analyses can be secured through local regional occupational programs);
  - encourage teachers and other appropriate staff to update their own knowledge and teaching techniques in response to the rapidly changing environment;
  - provide teachers and other appropriate staff with any new and changing information in their fields and techniques on how to use this data in their classrooms;
  - encourage teachers and other appropriate staff to take a computer-related class.

Teachers

- Work with students on employability attitudes;
- Teach and infuse basic skills into all curricula;
- Assess the students' interests, abilities and functional limitations before placing them in vocational training programs. Share those assessment reports with appropriate vocational teachers and/or employers;

- Obtain and use current job market information when preparing and guiding students for the working world;
- Provide students with some kind of keyboard training as part of the basic curriculum;
- Take a computer related class;

State

- Local educational and rehabilitative agencies receiving monies to conduct vocational preparation programs for the handicapped should be encouraged to:
    - attend periodic county or region-wide meetings to promote cooperative planning and eliminate fragmentation, possible conflicts and duplication of services;
    - develop interagency agreements which specify consistent policies and practices for the delivery of vocational services for handicapped students in secondary education;
- Promote and initiate more cooperative training and employment programs with industry and community agencies. Over thirty local educational agencies have been chosen in California as model sites for cooperative education and private sector employment of high school individuals with exceptional needs. All secondary school districts in California should adopt the goals, objectives and activities of these "State Department of Education Handicapped Youth Model Site/Work Ability Projects;" and
- A current and complete list of other exemplary career development and vocational education activities for the handicapped, as well as related inservice options for staff should be compiled and distributed by the State Department of Education to every local educational agency in California.

APPENDIX A

SPECIAL EDUCATION/VOCATIONAL EDUCATION SURVEY

PURPOSE: The purpose of this survey is to identify vocational education delivery systems throughout Orange County for handicapped students, grades 9-12. This survey will include (responses from or investigation of) high school and community college vocational classes, ROP's, CETA training sites, sheltered workshops and other training facilities utilized by the Department of Rehabilitation.

This survey consists of two parts.

DIRECTIONS: When completing the survey, please follow the specific directions for Part I and Part II as indicated below:

	COLUMN	TITLE
Part I	Ⓐ	Vocational Education Courses Within Instructional Program Categories: Check all appropriate courses/classes that are offered at your school/facility for each major category of instructional program. (i.e., Agriculture, Distribution and Marketing, etc.)
	Ⓑ	Total No. Handicapped Students in Each Instructional Program Category: For each major category of instructional program in column Ⓐ, indicate the total number of handicapped students from your school/facility who are participating in that program.
	Ⓒ	Participation by Handicapping Condition: Check the handicapping condition(s) that represent the type(s) of special education student(s) who are participating in each vocational education instructional program in column Ⓐ at your school/facility. (Please see Supplemental Sheet I, Federal Categories of Handicaps, for acronymn Definitions.)
	Ⓓ	Least Restrictive Environment/Vocational Program Options: For each vocational program option, check which major category of instructional programs are served by that vocational program option. (Please see Supplemental Sheet II, for descriptions of least restrictive environments/vocational program options.)
Part II	Question 1	Complete as indicated on page 8.
	Question 2	Complete as indicated on page 8.

PART I

Ⓐ Vocational Education Courses Within Instructional Program Categories

Ⓑ Total No. Handicapped Students in Each Instructional Program Category

Ⓒ Participation by Handicapping Condition *

Ⓓ Least Restrictive Environment/ Vocational Program Options *

01.0000 AGRICULTURE ☐☐☐

- ☐ 01.0100 Agricultural Production
- ☐ 01.0200 Agricultural Supplies/Services
- ☐ 01.0300 Agricultural Mechanics
- ☐ 01.0400 Agricultural Products
- ☐ 01.0500 Ornamental Horticulture
- ☐ 01.0600 Agricultural Resources
- ☐ 01.0700 Forestry
- ☐ 01.9900 Other______________________

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☐ MR	☐ ORTH
☐ HOH	☐ OHI
☐ DEA	☐ SLD
☐ SP	☐ DBL
☐ VH	☐ MULT
☐ SED	

- ☐ Regular Vocational Program
- ☐ Adapted Vocational Program
- ☐ Adapted Vocational Program Plus Remedial Services
- ☐ Special Vocational Education Programs
- ☐ Special Vocational School
- ☐ Sheltered Workshop
- ☐ Vocational Training in Institutional Settings

*Refer to Supplemental Sheet I.

*Refer to Supplemental Sheet II.

04.0000 DISTRIBUTION AND MARKETING ☐☐☐

- ☐ 04.0100 Advertising Services
- ☐ 04.0200 Apparel and Accessories
- ☐ 04.0300 Automotive
- ☐ 04.0400 Finance and Credit
- ☐ 04.0500 Floristry
- ☐ 04.0600 Food Distribution
- ☐ 04.0700 Food Services
- ☐ 04.0800 General Merchandise
- ☐ 04.0900 Hardware, Building Materials
- ☐ 04.1000 Home Furnishings
- ☐ 04.1100 Hotel and Lodging
- ☐ 04.1200 Industrial Marketing
- ☐ 04.1300 Insurance
- ☐ 04.1400 International Trade
- ☐ 04.1500 Personal Services
- ☐ 04.1600 Petroleum
- ☐ 04.1700 Real Estate
- ☐ 04.1800 Recreation and Tourism
- ☐ 04.1900 Transportation
- ☐ 04.9900 Other______________________

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☐ MR	☐ ORTH
☐ HOH	☐ OHI
☐ DEA	☐ SLD
☐ SP	☐ DBL
☐ VH	☐ MULT
☐ SED	

- ☐ Regular Vocational Program
- ☐ Adapted Vocational Program
- ☐ Adapted Vocational Program Plus Remedial Services
- ☐ Special Vocational Education Programs
- ☐ Special Vocational School
- ☐ Sheltered Workshop
- ☐ Vocational Training in Institutional Settings

PART I

Ⓐ Vocational Education Courses Within Instructional Program Categories

Ⓑ Total No. Handicapped Students in Each Instructional Program Category

Ⓒ Participation by Handicapping Condition

Ⓓ Least Restrictive Environment/ Vocational Program Options

07.0000 HEALTH OCCUPATIONS

- ☐ 07.0101 Dental Assistant
- ☐ 07.0102 Dental Hygienists (Asso)
- ☐ 07.0103 Dental Laboratory Technology
- ☐ 07.0203 Medical Laboratory Assisting
- ☐ 07.0299 Other Medical Laboratory Technology
- ☐ 07.0301 Nurse, Associate Degree
- ☐ 07.0302 Practical (Vocational) Nurse
- ☐ 07.0303 Nurses' Assistant (Aide)
- ☐ 07.0401 Occupational Therapy
- ☐ 07.0402 Physical Therapy
- ☐ 07.0501 Radiologic Technology
- ☐ 07.0700 Environmental Health
- ☐ 07.0800 Mental Health Technology
- ☐ 07.0903 Inhalation Therapy Technician
- ☐ 07.0904 Medical Assistant
- ☐ 07.0906 Health Aide
- ☐ 07.9900 Other______________________________

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- ☐ MR
- ☐ HOH
- ☐ DEA
- ☐ SP
- ☐ VH
- ☐ SED
- ☐ ORTH
- ☐ OHI
- ☐ SLD
- ☐ DBL
- ☐ MULT

- ☐ Regular Vocational Program
- ☐ Adapted Vocational Program
- ☐ Adapted Vocational Program Plus Remedial Services
- ☐ Special Vocational Education Programs
- ☐ Special Vocational School
- ☐ Sheltered Workshop
- ☐ Vocational Training in Institutional Settings

09.0100 CONSUMER AND HOMEMAKING

- ☐ 09.0102 Child Development
- ☐ 09.0103 Clothing and Textiles
- ☐ 09.0104 Consumer Education
- ☐ 09.0106 Family Relations
- ☐ 09.0107 Food and Nutrition
- ☐ 09.0108 Home Management
- ☐ 09.0109 Housing and Home Furnishing
- ☐ 09.0199 Other______________________________

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- ☐ MR
- ☐ HOH
- ☐ DEA
- ☐ SP
- ☐ VH
- ☐ SED
- ☐ ORTH
- ☐ OHI
- ☐ SLD
- ☐ DBL
- ☐ MULT

- ☐ Regular Vocational Program
- ☐ Adapted Vocational Program
- ☐ Adapted Vocational Program Plus Remedial Services
- ☐ Special Vocational Education Programs
- ☐ Special Vocational School
- ☐ Sheltered Workshop
- ☐ Vocational Training in Institutional Settings

PART I

Ⓐ	Ⓑ	Ⓒ	Ⓓ
Vocational Education Courses Within Instructional Program Categories	Total No. Handicapped Students in Each Instructional Program Category	Participation by Handicapping Condition	Least Restrictive Environment/ Vocational Program Options

09.0200 OCCUPATIONAL PREPARATION ☐☐☐

- ☐ 09.0201 Care and Guidance of Children
- ☐ 09.0202 Clothing, Management, Production and Services
- ☐ 09.0203 Food Management, Production and Services
- ☐ 09.0204 Home Furnishing, Equipment and Services
- ☐ 09.0205 Institutional and Home Management and Supporting Services
- ☐ 09.0299 Other ______________________________

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- ☐ MR
- ☐ HOH
- ☐ DEA
- ☐ SP
- ☐ VH
- ☐ SED
- ☐ ORTH
- ☐ OHI
- ☐ SLD
- ☐ DBL
- ☐ MULT

- ☐ Regular Vocational Program
- ☐ Adapted Vocational Program
- ☐ Adapted Vocational Program Plus Remedial Services
- ☐ Special Vocational Education Programs
- ☐ Special Vocational School
- ☐ Sheltered Workshop
- ☐ Vocational Training in Institutional Settings

14.0000 OFFICE OCCUPATIONS ☐☐☐

- ☐ 14.0100 Accounting and Computing
- ☐ 14.0200 Business Data Processing Systems
- ☐ 14.0300 Filing, Office Machines and General Office Clerical
- ☐ 14.0400 Information Communications Occupation
- ☐ 14.0500 Materials Support, Transporting, Storing, and Recording
- ☐ 14.0600 Personnel, Training, and Relating
- ☐ 14.0700 Stenographic, Secretarial, and Related
- ☐ 14.0800 Supervisory and Administrative Management
- ☐ 14.0900 Typing and Related Occupations
- ☐ 14.9900 Other ______________________________

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- ☐ MR
- ☐ HOH
- ☐ DEA
- ☐ SP
- ☐ VH
- ☐ SED
- ☐ ORTH
- ☐ OHI
- ☐ SLD
- ☐ DBL
- ☐ MULT

- ☐ Regular Vocational Program
- ☐ Adapted Vocational Program
- ☐ Adapted Vocational Program Plus Remedial Services
- ☐ Special Vocational Education Programs
- ☐ Special Vocational School
- ☐ Sheltered Workshop
- ☐ Vocational Training in Institutional Settings

PART I

Ⓐ

Vocational Education Courses Within Instructional Program Categories

Ⓑ

Total No. Handicapped Students in Each Instructional Program Category

Ⓒ

Participation by Handicapping Condition

Ⓓ

Least Restrictive Environment/ Vocational Program Options

16.0000 TECHNICAL

☐☐☐

☐ 16.0101 Aeronautical Technology
☐ 16.0103 Architectural Technology
☐ 16.0104 Automotive Technology
☐ 16.0105 Chemical Technology
☐ 16.0106 Civil Technology
☐ 16.0107 Electrical Technology
☐ 16.0108 Electronics Technology
☐ 16.0109 Electro-mechanical Technology
☐ 16.0110 Environmental Control Technology
☐ 16.0111 Industrial Technology
☐ 16.0112 Instrumentation Technology
☐ 16.0113 Mechanical Technology
☐ 16.0114 Metallurgical Technology
☐ 16.0117 Scientific Data Technology
☐ 16.0601 Commercial Pilot Training
☐ 16.0602 Fire and Safety Technology
☐ 16.0603 Forestry Technology
☐ 16.0604 Oceanographic Technology
☐ 16.0605 Police Science
☐ 16.9901 Air Pollution Technology
☐ 16.9902 Water and Waste Water Technology
☐ 16.9900 Other______________________________

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☐ MR
☐ HOH
☐ DEA
☐ SP
☐ VH
☐ SED

☐ ORTH
☐ OHI
☐ SLD
☐ DBL
☐ MULT

☐ Regular Vocational Program
☐ Adapted Vocational Program
☐ Adapted Vocational Program Plus Remedial Services
☐ Special Vocational Education Programs
☐ Special Vocational School
☐ Sheltered Workshop
☐ Vocational Training in Institutional Settings

PART I

Ⓐ

Vocational Education Courses Within Instructional Program Categories

Ⓑ

Total No. Handicapped Students in Each Instructional Program Category

Ⓒ

Participation by Handicapping Condition

Ⓓ

Least Restrictive Environment/ Vocational Program Options

17.0000 TRADES AND INDUSTRY

☐☐☐

- ☐ 17.0100 Air Conditioning
- ☐ 17.0200 Appliance Repair
- ☐ 17.0301 Body and Fender
- ☐ 17.0302 Mechanics, Automotive
- ☐ 17.0399 Other Automotive
- ☐ 17.0400 Aviation Occupations
- ☐ 17.0500 Blueprint Reading
- ☐ 17.0600 Business Machines Maintenance
- ☐ 17.0700 Commercial Art Occupations
- ☐ 17.0800 Commercial Fishery Occupations
- ☐ 17.0900 Commercial Photography Occupations
- ☐ 17.1001 Carpentry
- ☐ 17.1002 Electricity
- ☐ 17.1004 Masonry
- ☐ 17.1007 Plumbing and Pipefitting
- ☐ 17.1099 Other Construction and Maintenance
- ☐ 17.1100 Custodial Services
- ☐ 17.1200 Diesel Mechanic
- ☐ 17.1300 Drafting Occupations
- ☐ 17.1400 Electrical Occupations
- ☐ 17.1500 Electronic Occupations
- ☐ 17.1600 Fabric Maintenance Services
- ☐ 17.1700 Foremanship, Supervision, and Management Development
- ☐ 17.1900 Graphic Arts Occupations
- ☐ 17.2000 Industrial Atomic Energy
- ☐ 17.2100 Instrument Maintenance and Repair Occupations
- ☐ 17.2200 Maritime Occupations
- ☐ 17.2300 Metalworking Occupations
- ☐ 17.2400 Metallurgy Occupations

- ☐ MR
- ☐ HOH
- ☐ DEA
- ☐ SP
- ☐ VH
- ☐ SED
- ☐ ORTH
- ☐ OHI
- ☐ SLD
- ☐ DBL
- ☐ MULT

- ☐ Regular Vocational Program
- ☐ Adapted Vocational Program
- ☐ Adapted Vocational Program Plus Remedial Services
- ☐ Special Vocational Education Programs
- ☐ Special Vocational School
- ☐ Sheltered Workshop
- ☐ Vocational Training in Institutional Settings

PART I

Ⓐ Vocational Education Courses Within Instructional Program Categories

Ⓑ Total No. Handicapped Students in Each Instructional Program Category

Ⓒ Participation by Handicapping Condition

Ⓓ Least Restrictive Environment/ Vocational Program Options

17.0000 TRADES AND INDUSTRY (continued)

- ☐ 17.2601 Barbering
- ☐ 17.2602 Cosmetology
- ☐ 17.2699 Other Personal Services
- ☐ 17.2700 Plastics Occupations
- ☐ 17.2801 Fireman Training
- ☐ 17.2802 Law Enforcement Training
- ☐ 17.2899 Other Public Services
- ☐ 17.2900 Quantity Food Occupations
- ☐ 17.3000 Refrigeration
- ☐ 17.3100 Small Engine Repair
- ☐ 17.3200 Stationary Energy Sources Occupation
- ☐ 17.3300 Textile Production and Fabrication
- ☐ 17.3400 Leather Working
- ☐ 17.3500 Upholstering
- ☐ 17.3600 Woodworking Occupations
- ☐ 17.9900 Other____________________

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19.0000 WORK EXPERIENCE EDUCATION ☐☐☐

- ☐ 19.0100 Exploratory Work Experience Education
- ☐ 19.0200 General Work Experience Education
- ☐ 19.0300 Vocational Work Experience Education (currently enrolled in a related Vocational class)
- ☐ 19.0400 Vocational Work Experience Education (not currently enrolled in a related Vocational class)

- ☐ MR
- ☐ HOH
- ☐ DEA
- ☐ SP
- ☐ VH
- ☐ SED
- ☐ ORTH
- ☐ OHI
- ☐ SLD
- ☐ DBL
- ☐ MULT

- ☐ Regular Vocational Program
- ☐ Adapted Vocational Program
- ☐ Adapted Vocational Program Plus Remedial Services
- ☐ Special Vocational Education Programs
- ☐ Special Vocational School
- ☐ Sheltered Workshop
- ☐ Vocational Training in Institutional Settings

PART II 1. Check which of the following techniques your program/agency utilizes in assisting your special education students in finding part or full-time employment.

☐ 01 Teaching career decision-making skills
☐ 02 Teaching job seeking and keeping skills
☐ 03 Referrals to special education work experience coordinators
☐ 04 Referrals to regular work experience coordinators
☐ 05 Referrals to rehabilitative agencies
☐ 06 Referrals to public employment agencies
☐ 07 Use of CETA monies for employment
☐ 08 Other

2. How many students have been employed during 1980-81, as a result of your training program?

☐ 0- 10
☐ 11- 20
☐ 21- 30
☐ 31- 40
☐ 41- 50
☐ 51- 60
☐ 61- 70
☐ 71- 80
☐ 81- 90
☐ 91-100
☐ 101-110
☐ More than 110

Prepared under a Special Study Grant "30-03651-0000-82" from Office of Special Education. Opinions expressed in this document do not reflect the official position of the California State Department of Education.

SUPPLEMENTAL SHEET I
FEDERAL CATEGORIES OF HANDICAPS -- ACRONYMN DEFINITIONS

MR	Mentally Retarded
HOH	Hard of Hearing
DEA	Deaf
SP	Speech Impaired
VH	Visually Handicapped
SED	Seriously Emotionally Disturbed
ORTH	Orthopedically Impaired
OHI	Other Health Impaired
SLD	Specific Learning Disability
DBL	Deaf-Blind
MULT	Multihandicapped

SUPPLEMENTAL SHEET II
LEAST RESTRICTIVE ENVIRONMENTS/VOCATIONAL PROGRAM OPTIONS

REGULAR VOCATIONAL PROGRAMS
- little or no modification

ADAPTED VOCATIONAL PROGRAM
- materials and/or curriculum modified
- individualized and/or programmed instruction
- specialized instruction
- extended supervision and/or change in working style and/or environment

ADAPTED VOCATIONAL PROGRAM PLUS REMEDIAL SERVICES
- remediation of basic education as related to vocational subject matter
- tutorial services and/or assistance
- use of teacher aides
- team teaching of special and vocational education teachers in vocational programs
- vocational evaluation to determine prerequisites to succeed in adapted or regular vocational program and/or job readiness
- extended community involvement

SPECIAL VOCATIONAL EDUCATION PROGRAMS
- self-contained programs which offer services not possible in a regular vocational education class
- basic emphasis on prevocational skills

SPECIAL VOCATIONAL SCHOOL
- established solely for the purpose of vocational education of the handicapped
- usually physically removed from the regular school setting
- basic emphasis on prevocational skills and entry level job skills

SHELTERED WORKSHOP
- provides supervised work and training for those individuals not capable of engaging in competitive work experiences
- may or may not be in conjunction with school programs

VOCATIONAL TRAINING IN INSTITUTIONAL SETTINGS
- offered as part of the total educational program in an institutionalized setting

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NOCROP
JOB MARKET ANALYSIS SERVICE

APPENDIX B

COMPUTER OCCUPATIONS

June 30, 1982

USOE: 14.02

I. ECONOMIC ASSUMPTION:

The occupational projections in this report are based on certain assumptions about the national, state, and local economies. They are, like those used by the Employment Development Department, the following:

a. The institutional framework of the U. S. economy will not change radically. We are within the parameters of a recession at the time of this writing, but believe that the U. S. economy will slowly, but surely, emerge from this slump stronger than ever. We also believe that this emergence will become evident in the fourth quarter of 1982.

b. The technological and scientific trends that have become evident in the past 24 months will continue.

c. The world energy situation will not change drastically within the next five years.

d. The trend toward an "information society" and a high technology based economy will continue to grow, with widespread applications throughout all phases of life.

II. COURSES COVERED:

Business Data Processing Systems Occupations
Computer and Console Operations
Peripheral Equipment Operators
Key Punch and Coding Operators
Computer Programming
Computer Systems Analysis
Other Business Data Processing

III. JOB TITLES

JOB TITLES	D.O.T. NUMBERS
Terminal System Operator	203.362-018
Data Coder Operator	203.582-026
Terminal Operator	203.582-054
Computer Operator, Console	213.362-010
Computer/Peripheral Equipment Operator	213.382-010
Programmer Trainee	219.367-026
Computer Programmer	219.367-026
Computer Systems Analyst	

IV. DEMAND:

A. National:

Occupational Outlook Quarterly, Spring 1982:

Occupation	Est. Employment 1980	% Change 1980-90
Systems Analyst	26,500	+ 68 - 80%
Programmers	228,000	+ 49 - 60%
Computer Operating Personnel	558,000	+ 22 - 30%

Keypunch Operations expected to decline

Occupational Outlook Quarterly, Summer 1981:
"Computer occupations are expected to be the most rapidly growing occupational group in the economy over the next decade. Growth of the computer workforce has far outpaced the growth of the labor force."

Fortune, May 31, 1982:

"Computers can now see, speak, and diagnose diseases. Real-world applications of artificial intelligence are beginning to develop in three forms:

Image Processing
Natural language programs (using orders in English)
Knowledge based systems for problem solving

(IV. DEMAND, NATIONAL)

Business Week, 1982:
"At least 140 new companies making mini-computers have sprung up since 1977. This new generation of lower-priced computers is enlarging the potential market by making computer power affordable to a broader range of customers. Cheaper computer power has also paved the way for the development of more sophisticated software languages that make computers easier to use."

The Wall Street Journal, 1982:
"If properly written, the integrated packages should permit personal computers to do more work in less time, thus making their purchase easier to justify. Learning to do many different jobs on a computer also should become much easier.

Western Digital Annual Report, September 1, 1980:
"The world has an increasing reliance on sophisticated communication protocols spurred by the sweeping trend toward digital networks. There is also a broadening use of digital file devices requiring advanced techniques to access and protect them. The shortage of computer programmers is being heralded by many as leading to a software crisis."

T. J. Smith, President, Basic Four Corporation:
"Ten years ago, some thought the computer industry had just about run its course. But, in fact, it was only a phase of development that has been used up. Each dramatic breakthrough convinces us that the future is limitless."

Computer Services, August 31, 1981:
"It is estimated that computer service technician jobs will grow 154% between 1978 and 1990. Systems Analysts should grow by 120%."

Department of Labor Forecasts November 1981:
"The largest number of job openings to 1990 will be in the computer field:

Occupation	Annual Openings
Operators of computers and peripheral equipment	46,000
Programmers	25,000
Systems Analysts	21,000
Service Technicians	9,000
Keypunch Operators DECLINING to	4,000

(DEMAND)

B. State:

Projections for Employment, California (EDD)-1980-85:

Occupation	Ave. Annual Job Opport.	Opport. Ratio
*Total, All Occupations	643,212	5.81
Computer Programmers	1,859	4.19
Computer Systems Analysts	1,249	4.90
Other Computer Specialists	209	4.35
Keypunch Operators	- 331	- 1.06
Computer, Peripheral Equipment	1,289	3.43

Bank of America Economic Outlook, California 1982:
"Approximately 330,000 new jobs will be created in the state - representing 15 to 20 percent of all new jobs added in the nation. California Industries in 1982 showed highest growth in net income for Electronics and High Technology."

Security Pacific Economic Report, 1982:
"The overall (technology) sector outlook is very bright. Job gains in electronics-related industries should be stimulated by increased demand for high technology items for both business and consumer applications."

The Santa Ana Register, December 1981:
"Resource Rich West is where the jobs are. Technology will fashion new careers in telecommunications, health care, the military and other fields. The need for people who can provide computer programming has become - and will remain - insatiable."

California Business, November 1981:
"The small computer will impact California lifestyles on a broader scale than any product since the telephone. Growth doubling or tripling every year in four market segments simultaneously (business, home, scientific/technical and educational) is to be expected."

C. Local:

Projections of Employment, 1980-85 (EDD):

See Graph Page 5

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JOB MARKET ANALYSIS SERVICE

PROJECTIONS OF EMPLOYMENT FROM EDD:

SMSA'S	OCCUPATIONAL CATEGORY	Computer Programmers	Computer Systems Analysts	Other Computer Specialists	Computer Peripheral Equip. Oper.	Keypunch Operator					TOTAL, ALL OCCUPATIONS FOR SMSA
ANAHEIM - SANTA ANA - GARDEN GROVE	Ave. Annual Job Opport.	187	118	31	74	-37					55003
	Job Opport. Ratio	3.22	3.67	3.15	2.36	-1.60					6.15
IMPERIAL COUNTY	Ave. Annual Job Opport.	1	0	0	0	3					2290
	Job Opport. Ratio	3.05	6.73	0.0	4.65	4.96					5.13
LOS ANGELES - LONG BEACH	Ave. Annual Job Opport.	472	305	61	3.24	2.01					195131
	Job Opport. Ratio	3.48	3.79	4.14	2.34	1.69					5.03
OXNARD - SIMI VALLEY - VENTURA	Ave. Annual Job Opport.	13	10	1	10	-7					9801
	Job Opport. Ratio	2.75	3.30	3.92	2.71	-2.93					568
RIVERSIDE - SAN BERNARDINO - ONTARIO	Ave. Annual Job Opport.	31	21	2	45	-11					35517
	Job Opport. Ratio	5.29	5.97	8.44	4.96	-1.76					6.96
SAN DIEGO	Ave. Annual Job Opport.	132	88	20	82	-8					46550
	Job Opport. Ratio	4.49	5.21	9.47	4.17	-0.50					6.66
BAKERSFIELD	Ave. Annual Job Opport.	11	6	6	12	-3					9600
	Job Opport. Ratio	5.62	5.67	8.44	3.40	-2.14					5.78
SAN LUIS OBISPO	Ave. Annual Job Opport.	3	1	NOT	8	0					3879
	Job Opport. Ratio	22.11	22.03	LISTED	36.99	-19.97					16.49
SANTA BARBARA	Ave. Annual Job Opport.	24	12	10	12	-1					8525
	Job Opport. Ratio	4.78	3.64	6.13	3.04	-1.17					6.09

PLEASE READ INDIVIDUAL RATIOS ABOVE AGAINST THE TOTAL FOR ALL OCCUPATIONS FOR EACH AREA. The job opportunity ratio is the average annual job opening figure for the respective occupation. For example, a job ratio of 9.0 means that for every hundred jobs existing in 1980, nine job openings are expected each year.

NOCROP
10 Years

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JOB MARKET ANALYSIS SERVICE

PROJECTIONS OF EMPLOYMENT FROM EDD:

SMSA'S	OCCUPATIONAL CATEGORY	Computer Programmers	Systems Analysts	Operators	Keypunch						TOTAL, ALL OCCUPATIONS FOR SMSA
Merced County	Ave. Annual Job Opport.	3	1	5	0						3041
	Job Opport. Ratio	23.95	33.02	32.94	16.48						12.29
IMPERIAL COUNTY	Ave. Annual Job Opport.										
	Job Opport. Ratio										
LOS ANGELES - LONG BEACH	Ave. Annual Job Opport.										
	Job Opport. Ratio										
OXNARD - SIMI VALLEY - VENTURA	Ave. Annual Job Opport.										
	Job Opport. Ratio										
RIVERSIDE - SAN BERNARDINO - ONTARIO	Ave. Annual Job Opport.										
	Job Opport. Ratio										
SAN DIEGO	Ave. Annual Job Opport.										
	Job Opport. Ratio										
BAKERSFIELD	Ave. Annual Job Opport.										
	Job Opport. Ratio										
SAN LUIS OBISPO	Ave. Annual Job Opport										
	Job Opport. Ratio										
SANTA BARBARA	Ave. Annual Job Opport										
	Job Opport. Ratio										

PLEASE READ INDIVIDUAL RATIOS ABOVE AGAINST THE TOTAL FOR ALL OCCUPATIONS FOR EACH AREA. The job opportunity ratio is the average annual job opening figure for the respective occupation. For example, a job ratio of 9.0 means that for every hundred jobs existing in 1980, nine job openings are expected each year.

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(IV. DEMAND)

(C. Local)

California Business, September 1981:
14 of California's Fastest growing companies were directly involved in computers; 4 of these are in the Southern California area.

California Business, May 1982:
A listing of California's top 500 businesses lists 34 computer companies statewide, with 20 of these located in Southern California.

Bank of America Regional Perspectives, Orange County, 1982 Outlook:
" --A highly diversified economic base with strength in the industrial growth areas of aerospace, computer and high - technology products. "

A 30 day survey of newspapers within the Southern California area , considering the recession's impact on Want Ads across the nation, which shows a 36% drop in ads:

Occupation	Ave. Daily Ads
Operator	5
Programmer	3
Analyst	1
Programmer/Manager	1

A telephone survey of the Southern California area brought the following responses:

- -Most firms have at least a word processor in the office.
- -Many do their inventories and accounting procedures on a computer in-house, or contract with an outside computer service.
- -The medical fields are using floppy discs to store patient information, to run highly technical machinery and look forward to the diagnostic abilities inherent in the computer
- -The end of the recession will mean more computers in more applications throughout the area.

V MILITARY OCCUPATIONS:

All branches of the service use the following:

Computer/Machine Operators -including keypunch
Programmer/Analysts
Data Processing Managers
Data Coder Operators

VI. HANDICAPPED:

The handicapped will be able to move very effectively into the computer area, as indeed, many have. Good mental skills are the most important facet for inclusion in this job market. Some jobs mentioned during telephone interviews were:

Terminal Operator	- using visually handicapped with adaptive equipment; orthopedically handicapped when dexterity skills were adequate; hearing disabled; other health impaired; speech impaired, if basic skills are good.
Programmer	- Orthopedically handicapped. retaining good dexterity skills; hearing impaired; speech impaired; other health impaired, such as cardiacs, diabetics.
Analyst	-same as programmer

The job opportunities for the handicapped should increase as the use of flextime increases, and more adaptive devices are available. The current recession has caused employers to retreat on purchase of these devices, due to cost factor. The wider use and increased potential of the voice activated computer would mean a new world of job opportunities opening for many handicapped. See skills matrix, page 8 through 15.

VII. SALARIES:

Computer Operator	$1000 - $1700 per month
Computer Programmer	
Manager, Electronic Data	$2530 - $3823 per month
Programmer Analyst	$1999 - $2436 per month
Associate Systems Analyst	$1850 - $2780 per month
Supervisor, Computer Operations	$2008 - $2419 per month

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JOB MARKET ANALYSIS SERVICE

SUPPLEMENT TO

TELEPHONE SURVEY JOB MARKET ANALYSIS

USOE # Computer Applications OCCUPATIONS

JOB TITLE: Terminal System Operator D.O.T.# 203.362-018

1=Lowest
5=Highest

	1	2	3	4	5
Quantitative/Numerical Skills:					
Ability to count and record			X		
Ability to add			X		
Ability to subtract			X		
Ability to multiply			X		
Ability to divide			X		
Ability to measure		X			
Ability to make change		X			
Other high quantitative/numerical skills			X		
Communication Skills:					
Ability to read			X		
Ability to spell			X		
Ability to record information			X		
Ability to communicate verbally		X			
Ability to communicate in written form			X		
Ability to listen			X		
Ability to utilize technical vocabulary			X		
Cognitive Skills:					
Ability to retain information			X		
Ability to perform repetitive tasks			X		
Ability to plan			X		
Ability to conceptualize the problem			X		
Ability to transfer learning skills			X		
Perceptual Skills:					
Ability to recognize shapes, including letter forms			X		
Ability to discriminate size			X		
Ability to discriminate color		X			
Ability to discriminate texture		X			
Other perceptual skills			X		
Trait Skills:					
Ability to follow written directions			X		
Ability to follow oral directions			X		
Ability to concentrate on tasks - length of time 1 hour			X		
Ability to be a self starter			X		
Ability to make decisions			X		
Ability to tolerate pressure			X		
Ability to respond to change		X			
Ability to accept supervision			X		
Ability to compete		X			
Ability to cooperate with others			X		
Ability to work with things			X		
Ability to work with ideas			X		
Ability to express oneself orally		X			
Ability to express oneself in writing			X		
Ability to work alone			X		
Ability to work as part of a team			X		

North Orange County Regional Occupational Program

2360 West La Palma Avenue / Anaheim, California 92801 / (714) 776-2170

NOCROP
10 Years

SUPPLEMENT TO TELEPHONE SURVEY JOB MARKET ANALYSIS (continued)

PHYSICAL REQUIREMENTS

Mobility:
☐ None required
☒ Minimal
☐ Required
☐ Continual

☐ Must Drive
☐ Drive/own vehicle
☒ Sitting
☐ Sitting/Standing
☐ Sitting/Standing/Bending
☐ Sitting/Standing/Bending/Climbing

Dexterity:
☐ None Required
☐ Minimal
☐ Required
☒ Continual

☐ Gross Motor Dexterity/one side of the body
☒ Gross Motor Dexterity/both sides of the body
☐ Gross Motor Dexterity/one hand
☒ Gross Motor Dexterity/both hands
☐ Fine Motor Dexterity/one hand
☒ Fine Motor Dexterity/both hands

Strength/
Stamina:
☐ None Required
☒ Minimal
☐ Required
☐ Continual

☐ Ability to work 4 hours
☒ Ability to work 8 hours
☐ Ability to work 8+ hours
☒ Ability to lift 25 lbs. less than
☐ Ability to lift 50 lbs.
☐ Ability to lift 75 lbs.
☐ Ability to lift 100 lbs.
☐ Ability to lift 100+ lbs.

Handicapped persons able to be accommodated by industry:

☒ Deaf
☒ Hard of Hearing
☐ Mentally Retarded
☐ Multi-handicapped
☒ Orthopedically Impaired

☒ Other Health Impaired
☐ Seriously Emotionally Disturbed
☐ Learning Disabilities
☒ Speech Impaired
☒ Visually Handicapped
Using Adaptive Equipment

The handicapped will be able to move very effectively into the computer area, as indeed, many have. Good mental skills are the most important facet for inclusion in this job market. Some jobs mentioned during telephone interviews were:

Terminal Operator - using visually handicapped with adaptive equipment; orthopedically handicapped when dexterity skills were adequate; hearing disabled; other health impaired; speech impaired, if basic skills are good.
Programmer - Orthopedically handicapped; retaining good dexterity skills; hearing impaired; speech impaired; other health impaired, such as cardiacs, diabetics.
Analyst - same as programmer

The job opportunities for the handicapped should increase as the use of flex-time increases, and more adaptive devices are available. The current recession has caused employers to retreat on purchase of these devices, due to cost factor. The wider use and increased potential of the voice activated computer would mean a new world of job opportunities opening for many handicapped.

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NOCROP
JOB MARKET ANALYSIS SERVICE

SUPPLEMENT TO

TELEPHONE SURVEY JOB MARKET ANALYSIS

USOE # Computer Applications OCCUPATIONS

JOB TITLE: Data Coder Operator D.O.T.# 203.582-026

1=Lowest
5=Highest

	1	2	3	4	5
Quantitative/Numerical Skills:					
Ability to count and record			X		
Ability to add			X		
Ability to subtract			X		
Ability to multiply			X		
Ability to divide			X		
Ability to measure		X			
Ability to make change		X			
Other high quantitative/numerical skills			X		
Communication Skills:					
Ability to read			X		
Ability to spell			X		
Ability to record information			X		
Ability to communicate verbally			X		
Ability to communicate in written form			X		
Ability to listen			X		
Ability to utilize technical vocabulary			X		
Cognitive Skills:					
Ability to retain information			X		
Ability to perform repetitive tasks			X		
Ability to plan			X		
Ability to conceptualize the problem			X		
Ability to transfer learning skills			X		
Perceptual Skills:					
Ability to recognize shapes, including letter forms			X		
Ability to discriminate size			X		
Ability to discriminate color		X			
Ability to discriminate texture		X			
Other perceptual skills			X		
Trait Skills:					
Ability to follow written directions			X		
Ability to follow oral directions			X		
Ability to concentrate on tasks - length of time 1 hour			X		
Ability to be a self starter			X		
Ability to make decisions			X		
Ability to tolerate pressure			X		
Ability to respond to change			X		
Ability to accept supervision			X		
Ability to compete		X			
Ability to cooperate with others			X		
Ability to work with things			X		
Ability to work with ideas			X		
Ability to express oneself orally		X			
Ability to express oneself in writing			X		
Ability to work alone			X		
Ability to work as part of a team			X		

North Orange County Regional Occupational Program

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NOCROP
10 Years

SUPPLEMENT TO TELEPHONE SURVEY JOB MARKET ANALYSIS (continued)

PHYSICAL REQUIREMENTS

Mobility:
☐ None required
☒ Minimal
☐ Required
☐ Continual

☐ Must Drive
☐ Drive/own vehicle
☒ Sitting
☐ Sitting/Standing
☐ Sitting/Standing/Bending
☐ Sitting/Standing/Bending/Climbing

Dexterity:
☐ None Required
☐ Minimal
☒ Required
☐ Continual

☐ Gross Motor Dexterity/one side of the body
☒ Gross Motor Dexterity/both sides of the body
☐ Gross Motor Dexterity/one hand
☒ Gross Motor Dexterity/both hands
☐ Fine Motor Dexterity/one hand
☒ Fine Motor Dexterity/both hands

Strength/
Stamina:
☐ None Required
☐ Minimal
☒ Required
☐ Continual

☐ Ability to work 4 hours
☒ Ability to work 8 hours
☐ Ability to work 8+ hours
☒ Ability to lift [illegible] 10 lbs.
☐ Ability to lift 50 lbs.
☐ Ability to lift 75 lbs.
☐ Ability to lift 100 lbs.
☐ Ability to lift 100+ lbs.

Handicapped persons able to be accommodated by industry:

☒ Deaf
☒ Hard of Hearing
☐ Mentally Retarded
☐ Multi-handicapped
☒ Orthopedically Impaired

☒ Other Health Impaired
☐ Seriously Emotionally Disturbed
☐ Learning Disabilities
☒ Speech Impaired
☒ Visually Handicapped With Adaptive Devices

The handicapped will be able to move very effectively into the computer area, as indeed, many have. Good mental skills are the most important facet for inclusion in this job market. Some jobs mentioned during telephone interviews were:

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NOCROP
JOB MARKET ANALYSIS SERVICE

SUPPLEMENT TO

TELEPHONE SURVEY JOB MARKET ANALYSIS

USOE # Computer Application OCCUPATIONS

JOB TITLE: Terminal Operator D.O.T.# 203.582-054

1=Lowest
5=Highest

	1	2	3	4	5
Quantitative/Numerical Skills:					
Ability to count and record			X		
Ability to add			X		
Ability to subtract			X		
Ability to multiply			X		
Ability to divide			X		
Ability to measure		X			
Ability to make change		X			
Other high quantitative/numerical skills			X		
Communication Skills:					
Ability to read			X		
Ability to spell			X		
Ability to record information			X		
Ability to communicate verbally			X		
Ability to communicate in written form			X		
Ability to listen			X		
Ability to utilize technical vocabulary			X		
Cognitive Skills:					
Ability to retain information			X		
Ability to perform repetitive tasks			X		
Ability to plan			X		
Ability to conceptualize the problem			X		
Ability to transfer learning skills			X		
Perceptual Skills:					
Ability to recognize shapes, including letter forms			X		
Ability to discriminate size			X		
Ability to discriminate color		X			
Ability to discriminate texture		X			
Other perceptual skills			X		
Trait Skills:					
Ability to follow written directions			X		
Ability to follow oral directions			X		
Ability to concentrate on tasks - length of time [1 hour]			X		
Ability to be a self starter			X		
Ability to make decisions			X		
Ability to tolerate pressure			X		
Ability to respond to change			X		
Ability to accept supervision			X		
Ability to compete		X			
Ability to cooperate with others			X		
Ability to work with things			X		
Ability to work with ideas			X		
Ability to express oneself orally		X			
Ability to express oneself in writing			X		
Ability to work alone			X		
Ability to work as part of a team			X		

North Orange County Regional Occupational Program

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NOCROP 10 Year

SUPPLEMENT TO TELEPHONE SURVEY JOB MARKET ANALYSIS (continued)

PHYSICAL REQUIREMENTS

Mobility:	☐ None required	☐ Must Drive
	☒ Minimal	☐ Drive/own vehicle
	☐ Required	☒ Sitting
	☐ Continual	☐ Sitting/Standing
		☐ Sitting/Standing/Bending
		☐ Sitting/Standing/Bending/Climbing
Dexterity:	☐ None Required	☐ Gross Motor Dexterity/one side of the body
	☐ Minimal	☒ Gross Motor Dexterity/both sides of the body
	☒ Required	☐ Gross Motor Dexterity/one hand
	☐ Continual	☒ Gross Motor Dexterity/both hands
		☐ Fine Motor Dexterity/one hand
		☒ Fine Motor Dexterity/both hands
Strength/ Stamina:	☐ None Required	☐ Ability to work 4 hours
	☒ Minimal	☒ Ability to work 8 hours
	☐ Required	☐ Ability to work 8+ hours
	☐ Continual	☐ Ability to lift 25 lbs.
		☐ Ability to lift 50 lbs.
		☐ Ability to lift 75 lbs.
		☐ Ability to lift 100 lbs.
		☐ Ability to lift 100+ lbs.

Handicapped persons able to be accommodated by industry:

☒ Deaf	☒ Other Health Impaired
☒ Hard of Hearing	☐ Seriously Emotionally Disturbed
☐ Mentally Retarded	☐ Learning Disabilities
☐ Multi-handicapped	☒ Speech Impaired
☒ Orthopedically Impaired	☒ Visually Handicapped With Adaptive Devices

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Analyst	- same as programmer.

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NOCROP
JOB MARKET ANALYSIS SERVICE

SUPPLEMENT TO

TELEPHONE SURVEY JOB MARKET ANALYSIS

USOE # Computer Applications OCCUPATIONS

JOB TITLE: Computer Operator, Console D.O.T.# 213.362-010

1=Lowest
5=Highest

	1	2	3	4	5
Quantitative/Numerical Skills:					
Ability to count and record			X		
Ability to add			X		
Ability to subtract			X		
Ability to multiply			X		
Ability to divide			X		
Ability to measure			X		
Ability to make change			X		
Other high quantitative/numerical skills			X		
Communication Skills:					
Ability to read			X		
Ability to spell			X		
Ability to record information			X		
Ability to communicate verbally			X		
Ability to communicate in written form			X		
Ability to listen		X			
Ability to utilize technical vocabulary			X		
Cognitive Skills:					
Ability to retain information			X		
Ability to perform repetitive tasks			X		
Ability to plan			X		
Ability to conceptualize the problem			X		
Ability to transfer learning skills			X		
Perceptual Skills:					
Ability to recognize shapes, including letter forms			X		
Ability to discriminate size			X		
Ability to discriminate color		X			
Ability to discriminate texture		X			
Other perceptual skills			X		
Trait Skills:					
Ability to follow written directions			X		
Ability to follow oral directions			X		
Ability to concentrate on tasks - length of time 1 hour			X		
Ability to be a self starter			X		
Ability to make decisions			X		
Ability to tolerate pressure			X		
Ability to respond to change			X		
Ability to accept supervision			X		
Ability to compete		X			
Ability to cooperate with others			X		
Ability to work with things			X		
Ability to work with ideas		X			
Ability to express oneself orally			X		
Ability to express oneself in writing			X		
Ability to work alone			X		
Ability to work as part of a team			X		

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10 Year

SUPPLEMENT TO TELEPHONE SURVEY JOB MARKET ANALYSIS (continued)

PHYSICAL REQUIREMENTS

Mobility:
___ None required
X Minimal
___ Required
___ Continual

___ Must Drive
___ Drive/own vehicle
X Sitting
___ Sitting/Standing
___ Sitting/Standing/Bending
___ Sitting/Standing/Bending/Climbing

Dexterity:
___ None Required
___ Minimal
X Required
___ Continual

___ Gross Motor Dexterity/one side of the body
X Gross Motor Dexterity/both sides of the body
___ Gross Motor Dexterity/one hand
X Gross Motor Dexterity/both hands
___ Fine Motor Dexterity/one hand
X Fine Motor Dexterity/both hands

Strength/
Stamina:
___ None Required
X Minimal
___ Required
___ Continual

___ Ability to work 4 hours
X Ability to work 8 hours
___ Ability to work 8+ hours
X Ability to lift ~~25 lbs.~~ 10 lbs.
___ Ability to lift 50 lbs.
___ Ability to lift 75 lbs.
___ Ability to lift 100 lbs.
___ Ability to lift 100+ lbs.

Handicapped persons able to be accommodated by industry:

X Deaf
X Hard of Hearing
___ Mentally Retarded
___ Multi-handicapped
X Orthopedically Impaired

X Other Health Impaired
___ Seriously Emotionally Disturbed
___ Learning Disabilities
X Speech Impaired
X Visually Handicapped With Adaptive Devices

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SUPPLEMENT TO

TELEPHONE SURVEY JOB MARKET ANALYSIS

USOE # Computer Applications OCCUPATIONS

JOB TITLE: Computer/Peripheral Equip Operator D.O.T.# 213.382-010

1=Lowest
5=Highest

	1	2	3	4	5
Quantitative/Numerical Skills:					
Ability to count and record			X		
Ability to add			X		
Ability to subtract			X		
Ability to multiply			X		
Ability to divide			X		
Ability to measure			X		
Ability to make change		X			
Other high quantitative/numerical skills			X		
Communication Skills:					
Ability to read			X		
Ability to spell			X		
Ability to record information			X		
Ability to communicate verbally			X		
Ability to communicate in written form		X			
Ability to listen			X		
Ability to utilize technical vocabulary			X		
Cognitive Skills:					
Ability to retain information			X		
Ability to perform repetitive tasks			X		
Ability to plan			X		
Ability to conceptualize the problem			X		
Ability to transfer learning skills			X		
Perceptual Skills:					
Ability to recognize shapes, including letter forms			X		
Ability to discriminate size			X		
Ability to discriminate color		X			
Ability to discriminate texture		X			
Other perceptual skills			X		
Trait Skills:					
Ability to follow written directions			X		
Ability to follow oral directions			X		
Ability to concentrate on tasks - length of time 1 hour			X		
Ability to be a self starter			X		
Ability to make decisions			X		
Ability to tolerate pressure			X		
Ability to respond to change			X		
Ability to accept supervision			X		
Ability to compete		X			
Ability to cooperate with others			X		
Ability to work with things			X		
Ability to work with ideas			X		
Ability to express oneself orally			X		
Ability to express oneself in writing		X			
Ability to work alone			X		
Ability to work as part of a team			X		

SUPPLEMENT TO TELEPHONE SURVEY JOB MARKET ANALYSIS (continued)

PHYSICAL REQUIREMENTS

Mobility:

☐ None required
☒ Minimal
☐ Required
☐ Continual

☐ Must Drive
☐ Drive/own vehicle
☒ Sitting
☐ Sitting/Standing
☐ Sitting/Standing/Bending
☐ Sitting/Standing/Bending/Climbing

Dexterity:

☐ None Required
☒ Minimal
☐ Required
☐ Continual

☐ Gross Motor Dexterity/one side of the body
☒ Gross Motor Dexterity/both sides of the body
☐ Gross Motor Dexterity/one hand
☒ Gross Motor Dexterity/both hands
☐ Fine Motor Dexterity/one hand
☒ Fine Motor Dexterity/both hands

Strength/ Stamina:

☐ None Required
☒ Minimal
☐ Required
☐ Continual

☐ Ability to work 4 hours
☒ Ability to work 8 hours
☐ Ability to work 8+ hours
☒ Ability to lift 25 lbs.
☐ Ability to lift 50 lbs.
☐ Ability to lift 75 lbs.
☐ Ability to lift 100 lbs.
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☒ Deaf
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☐ Mentally Retarded
☐ Multi-handicapped
☒ Orthopedically Impaired

☒ Other Health Impaired
☐ Seriously Emotionally Disturbed
☐ Learning Disabilities
☒ Speech Impaired
☒ Visually Handicapped With Adaptive Devices

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SUPPLEMENT TO
TELEPHONE SURVEY JOB MARKET ANALYSIS

USOE # Computer Applications OCCUPATIONS

JOB TITLE: Programmer Trainee D.O.T.# 219.367-026

1=Lowest
5=Highest

	1	2	3	4	5
Quantitative/Numerical Skills:					
Ability to count and record				X	
Ability to add				X	
Ability to subtract				X	
Ability to multiply				X	
Ability to divide				X	
Ability to measure				X	
Ability to make change		X			
Other high quantitative/numerical skills				X	
Communication Skills:					
Ability to read				X	
Ability to spell				X	
Ability to record information				X	
Ability to communicate verbally			X		
Ability to communicate in written form				X	
Ability to listen				X	
Ability to utilize technical vocabulary				X	
Cognitive Skills:					
Ability to retain information				X	
Ability to perform repetitive tasks				X	
Ability to plan				X	
Ability to conceptualize the problem				X	
Ability to transfer learning skills				X	
Perceptual Skills:					
Ability to recognize shapes, including letter forms				X	
Ability to discriminate size				X	
Ability to discriminate color		X			
Ability to discriminate texture		X			
Other perceptual skills				X	
Trait Skills:					
Ability to follow written directions				X	
Ability to follow oral directions				X	
Ability to concentrate on tasks - length of time 1 hour				X	
Ability to be a self starter				X	
Ability to make decisions				X	
Ability to tolerate pressure				X	
Ability to respond to change				X	
Ability to accept supervision				X	
Ability to compete		X			
Ability to cooperate with others				X	
Ability to work with things				X	
Ability to work with ideas				X	
Ability to express oneself orally			X		
Ability to express oneself in writing				X	
Ability to work alone				X	
Ability to work as part of a team				X	

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SUPPLEMENT TO TELEPHONE SURVEY JOB MARKET ANALYSIS (continued)

PHYSICAL REQUIREMENTS

Mobility:
☐ None required
☒ Minimal
☐ Required
☐ Continual

☐ Must Drive
☐ Drive/own vehicle
☒ Sitting
☐ Sitting/Standing
☐ Sitting/Standing/Bending
☐ Sitting/Standing/Bending/Climbing

Dexterity:
☐ None Required
☐ Minimal
☒ Required
☐ Continual

☐ Gross Motor Dexterity/one side of the body
☒ Gross Motor Dexterity/both sides of the body
☐ Gross Motor Dexterity/one hand
☒ Gross Motor Dexterity/both hands
☒ Fine Motor Dexterity/one hand
☐ Fine Motor Dexterity/both hands

Strength/ Stamina:
☐ None Required
☐ Minimal
☒ Required
☐ Continual

☐ Ability to work 4 hours
☒ Ability to work 8 hours
☐ Ability to work 8+ hours
☒ Ability to lift ~~25 lbs.~~ 10 lbs.
☐ Ability to lift 50 lbs.
☐ Ability to lift 75 lbs.
☐ Ability to lift 100 lbs.
☐ Ability to lift 100+ lbs.

Handicapped persons able to be accommodated by industry:

☒ Deaf
☒ Hard of Hearing
☐ Mentally Retarded
☐ Multi-handicapped
☒ Orthopedically Impaired

☒ Other Health Impaired
☐ Seriously Emotionally Disturbed
☐ Learning Disabilities
☒ Speech Impaired
☒ Visually Handicapped With Adaptive Devices

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SUPPLEMENT TO

TELEPHONE SURVEY JOB MARKET ANALYSIS

USOE # Computer Applications OCCUPATIONS

JOB TITLE: Computer Programmer D.O.T.# 219.367-026

1=Lowest
5=Highest

	1	2	3	4	5
Quantitative/Numerical Skills:					
Ability to count and record				X	
Ability to add				X	
Ability to subtract				X	
Ability to multiply				X	
Ability to divide				X	
Ability to measure				X	
Ability to make change		X			
Other high quantitative/numerical skills				X	
Communication Skills:					
Ability to read				X	
Ability to spell				X	
Ability to record information				X	
Ability to communicate verbally				X	
Ability to communicate in written form				X	
Ability to listen				X	
Ability to utilize technical vocabulary				X	
Cognitive Skills:					
Ability to retain information				X	
Ability to perform repetitive tasks				X	
Ability to plan				X	
Ability to conceptualize the problem				X	
Ability to transfer learning skills				X	
Perceptual Skills:					
Ability to recognize shapes, including letter forms				X	
Ability to discriminate size				X	
Ability to discriminate color			X		
Ability to discriminate texture		X			
Other perceptual skills				X	
Trait Skills:					
Ability to follow written directions				X	
Ability to follow oral directions				X	
Ability to concentrate on tasks - length of time 1-2 hours				X	
Ability to be a self starter				X	
Ability to make decisions				X	
Ability to tolerate pressure				X	
Ability to respond to change				X	
Ability to accept supervision				X	
Ability to compete		X			
Ability to cooperate with others				X	
Ability to work with things				X	
Ability to work with ideas				X	
Ability to express oneself orally			X		
Ability to express oneself in writing				X	
Ability to work alone				X	
Ability to work as part of a team				X	

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NOCROP
10 Years

SUPPLEMENT TO TELEPHONE SURVEY JOB MARKET ANALYSIS (continued)

PHYSICAL REQUIREMENTS

Mobility:
- ☐ None required
- ☒ Minimal
- ☐ Required
- ☐ Continual

- ☐ Must Drive
- ☐ Drive/own vehicle
- ☒ Sitting
- ☐ Sitting/Standing
- ☐ Sitting/Standing/Bending
- ☐ Sitting/Standing/Bending/Climbing

Dexterity:
- ☐ None Required
- ☐ Minimal
- ☒ Required
- ☐ Continual

- ☐ Gross Motor Dexterity/one side of the body
- ☒ Gross Motor Dexterity/both sides of the body
- ☐ Gross Motor Dexterity/one hand
- ☒ Gross Motor Dexterity/both hands
- ☒ Fine Motor Dexterity/one hand
- ☐ Fine Motor Dexterity/both hands

Strength/Stamina:
- ☐ None Required
- ☒ Minimal
- ☐ Required
- ☐ Continual

- ☐ Ability to work 4 hours
- ☒ Ability to work 8 hours
- ☐ Ability to work 8+ hours
- ☒ Ability to lift 25 lbs.
- ☐ Ability to lift 50 lbs.
- ☐ Ability to lift 75 lbs.
- ☐ Ability to lift 100 lbs.
- ☐ Ability to lift 100+ lbs.

Handicapped persons able to be accommodated by industry:

- ☒ Deaf
- ☒ Hard of Hearing
- ☐ Mentally Retarded
- ☐ Multi-handicapped
- ☒ Orthopedically Impaired

- ☒ Other Health Impaired
- ☐ Seriously Emotionally Disturbed
- ☐ Learning Disabilities
- ☒ Speech Impaired
- ☒ Visually Handicapped With Adaptive Devices

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JOB MARKET ANALYSIS SERVICE

SUPPLEMENT TO

TELEPHONE SURVEY JOB MARKET ANALYSIS

USOE # Computer Applications OCCUPATIONS

JOB TITLE: Computer Systems Analyst D.O.T.#

1=Lowest
5=Highest

	1	2	3	4	5
Quantitative/Numerical Skills:					
Ability to count and record					X
Ability to add					X
Ability to subtract					X
Ability to multiply					X
Ability to divide					X
Ability to measure				X	
Ability to make change		X			
Other high quantitative/numerical skills					X
Communication Skills:					
Ability to read					X
Ability to spell					X
Ability to record information					X
Ability to communicate verbally					X
Ability to communicate in written form					X
Ability to listen					X
Ability to utilize technical vocabulary					X
Cognitive Skills:					
Ability to retain information					X
Ability to perform repetitive tasks					X
Ability to plan					X
Ability to conceptualize the problem					X
Ability to transfer learning skills					X
Perceptual Skills:					
Ability to recognize shapes, including letter forms					X
Ability to discriminate size					X
Ability to discriminate color					X
Ability to discriminate texture			X		
Other perceptual skills					X
Trait Skills:					
Ability to follow written directions					X
Ability to follow oral directions					X
Ability to concentrate on tasks - length of time 4 hour					X
Ability to be a self starter					X
Ability to make decisions					X
Ability to tolerate pressure					X
Ability to respond to change					X
Ability to accept supervision					X
Ability to compete			X		
Ability to cooperate with others					X
Ability to work with things					X
Ability to work with ideas					X
Ability to express oneself orally					X
Ability to express oneself in writing					X
Ability to work alone					X
Ability to work as part of a team					X

SUPPLEMENT TO TELEPHONE SURVEY JOB MARKET ANALYSIS (continued)

PHYSICAL REQUIREMENTS

Mobility:
___ None required
X Minimal
___ Required
___ Continual

___ Must Drive
___ Drive/own vehicle
X Sitting
___ Sitting/Standing
___ Sitting/Standing/Bending
___ Sitting/Standing/Bending/Climbing

Dexterity:
___ None Required
___ Minimal
x Required
___ Continual

___ Gross Motor Dexterity/one side of the body
X Gross Motor Dexterity/both sides of the body
___ Gross Motor Dexterity/one hand
X Gross Motor Dexterity/both hands
X Fine Motor Dexterity/one hand
___ Fine Motor Dexterity/both hands

Strength/ Stamina:
___ None Required
X Minimal
___ Required
___ Continual

___ Ability to work 4 hours
X Ability to work 8 hours
___ Ability to work 8+ hours
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___ Ability to lift 50 lbs.
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X Speech Impaired
X Visually Handicapped With Adaptive Devices

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VIII. SUPPLY:

Please see Matrix on Page 17 of this study. The matrix does not show the actual picture; only the classes I could validate for 1981. Many others have begun since then, as the computer impact became widespread and equipment became available for education.

IX. GLOSSARY:

Assembler	- A computer program that converts a higher-level(English-like) programming language into machine-readable instructions
Basic	A higher-level, English-like computer programming language.
Bit	The commonly used abbreviation for binary digit--the smallest unit of information recognized by a computer.
Chip	A microprocessor that is a complete computer on a single chip of silicon.
Cobol	A higher-level, English-like computer programming language. (usually used in business application)
Compiler	Software that translate a program language such as Cobol into machine-level language.
Electronic Mail	The generation, transmission and display of business correspondence and documents by electronic means.
Facsimile device	A machine employed to relay alphnumeric and graphic data to distant sites along telephone or transmission lines, or via radio and microwave communication links.
Fortran	A high-level computer programming language, suitable for scientific purposes.
High level language	- A programming language that allows the programmer to express operations in a form that is closer to the normal human language representation of the procedures the computer is to perform.
Machine Language	A binary language all digital computer products must use to perform processing. All other programming languages must be compiled or translated ultimately into binary code before entering the system. This binary language is used directly by the machine, and is machine language.
Off-Line	A word or data processing operation performed on standalone equipment, not being connected to another central processor or computer system.
On-Line*	A word or data processing operation which is performed on a local system connected to and sharing the facilities of a remote central processor.
PL/1	A high-level programming language, designed for use in a wide range of commercial and scientific computer applications which has features of FORTRAN and COBOL plus others.

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SUPPLY FACTOR

Training Classes by USOE Code Year 1981 / SMSA	14.0201	14.0202	14.0203					
Anaheim - Santa Ana Garden Grove	9	30	10					
Imperial	2	--	--					
Los Angeles Long Beach	14	49	25					
Oxnard - Simi Valley - Ventura	1	9	6					
Riverside - San Bernadino - Ontario	2 6	-- 12	1 2					
San Diego	10	11	20					
Bakersfield	5	40	2					
San Luis Obispo	3	17	1					
Santa Barbara								

Merced Not available at this time

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X. DEFINITIVE DATA:

A career ladder for these occupations would have the following steps:

SOFTWARE

Level 1: Terminal Operator (using only software applications already developed)

Level 2: Computer Operator

Level 3: Programmer

Level 4: Systems Analyst

Level 5: Systems Analyst, Sr. (Manager)

The languages currently pertinent to various fields of programming are:

Business/Finance Application	Medical/Science Application
Basic (English)	Fortran (Numerical)
Cobol	
Pascal	

Aerospace/Military

Own language - depends on equipment.

A career ladder for occupations dealing with the HARDWARE side of computer might look like this:

Level 1: Computer Operator

Level 2: Electronic Technician

Level 3: Computer Technician

Level 4: Computer Repair Technician

Top level Occupational Titles might include:

Facilities Manager
Data Processing Manager
Operations Manager

XI. RECOMMENDATIONS:

The incredible expansion of the computer field, as it impacts every aspect of our lives, is a phenomenom marveled at within the industry itself. Advances that were predicted for 1986 and beyond are in place in 1982.

June 14, 1951 heralded the concept of "Do not fold, spindle or mutilate" as the world's first commercial computer, designed for the U. S. Census Bureau was unveiled. UNIVAC I measured 8 feet x 7½ feet x 14½ feet, with a control panel, described by one reporter as " a contraption that looks like a combination pipe organ console, a linotype machine and a telephone switchboard, with a Buck Rogers typewriter nearby."

In contrast, check out any video game arcade or computer camp; visit the computer classes springing up throughout the Southland - children are involved. Businesses predict purchases as soon as the interest rates drop and the economy levels. The automation of our globe is underway!

The mini-computer has been developed and brings this technology within reach of every facet of business/industry/government/education/personal life. I do not hesitate to forecast the following things:

By 1986:

-35-50% of the homes in the Southern California area will have a personal computer hook-up in their home. This will enable them to do their personal accounting, purchasing, recreation, and some aspects of the household functions.

-It will be taught as a basic skill (required subject) within the Jr. High School level, insofar as the schools are able to afford the equipment.

-Major retailers will be using it in conjunction with video shows on locally programmed cable television to "sell their wares", completing sales with computer card input and ordering from the home.

-All major businesses and medical facilities will have computer files, billing, inventory and many other applications.

-Artificial Intelligence capability will rocket through our society, producing true "space-age" innovations.

-The "talking computer" will revolutionize the work world for the handicapped.

(XI. Recommendations)

(By 1986)

- The computer will be accepted as the pad and pencil of the new decades (By 1990, teachers will worry for fear children will forget how to write properly, as they will be fascinated by the use of computer as a teaching tool.)

- Video display terminals and word processing units will impact the areas usually occupied by typewriters. Electronic in-out baskets, electronic mail, automated sign-out sheets, video-scheduling books, reference aids (thesaurus, zip code, dictionary and encyclopedias that talk) will revolutionize the office.

- Computers are even now being used in computer aided design/ computer aided manufacture: computer numerically controlled machining and tool design; robotics programming; computer aided welding and laser programming for all applications; computer aided scientific applications; teaching software explosion' in education; and so on ad infinitum.

Small computers will play an increasingly important role in the future. The decade of the 80's will be one of research and stabilization during rapid growth. We will interface with computers even in the agricultural field as they plot our weather patterns and plan crop plantings and feedings. Software advances will make us a 'global society', as banks of information from all parts of our world interface with one another.

Classes need to be established with the capability of moving rapidly into new curriculum areas. Specialty computer areas will develop as expansion and research combine to lead the way. We must be ready to instruct students in the world of work that is reality for this decade.

The Education Department defines literacy as competence in communication, computation, problem-solving and interpersonal skills in such areas as government and law, health and safety, occupational knowledge, consumer economics and use of community resources. We may be moving into an age of great divergence of knowledge, with our students in great danger of being semi-literate. This will impede their ability to move freely and productively in the coming decades. Literacy is a basic component of computer use and must be taught in conjunction with the technology, to be of maximum effectiveness. Those who have both capabilities will have the best chance to survive and move ahead in the coming decade.

Written and Researched by: Grace E. King
Grace King, Occupational Analyst

XII. SOURCES:

UCLA Forecasts
Milton Friedman, Economist
Bank of America
Security Pacific Bank
FORTUNE
Boardroom
Basic Four Annual Report
Los Angeles Times
Santa Ana Register
Orange County Business Journal
Riverside Enterprise
San Diego Evening News
U. S. News and World Report
Annual Planning Information
Orange County Business
Information Processing
Los Angeles Executive
Orange County Executive
The Communicator of San Diego
Time
Newsweek
Anaheim Bulletin
New York Times
Tandy
ROP/C Instructors
Golden West College
Santa Ana College
California State University - Fullerton and Long Beach; Sacramento
Wall Street Journal
McGraw Hill Inc.
Scientific Research Associates Inc.
Educational Technology Center - Irvine
Control Data Institute
Southern California Edison
Xerox Palo Alto Center
Massachusetts Institute of Technology
Employment Development Department, California; Los Angeles;
Bell Labs
Pacific Telephone Yellow Pages
General Automation
Duke University Art Department
Occupational Outlook Quarterly
Western Digital Annual Report
Computer Services
Department of Labor
Orange County Industry - Education Council
Orange County Chamber of Commerce
CBEDS _CSDE
Disabled - USA

APPENDIX C

DAVID L. SMITH, DIRECTOR
JEAN LANNING, COORDINATOR
LAURIE MANSEAU, SUPERVISOR
GRACE KING, JOB MARKET ANALYST

NOCROP
JOB MARKET ANALYSIS SERVICE

SUPPLEMENT TO

TELEPHONE SURVEY JOB MARKET ANALYSIS

USOE # ______________________ OCCUPATIONS

JOB TITLE: ______________________ D.O.T.# ______________

1=Lowest
5=Highest

	1	2	3	4	5
Quantitative/Numerical Skills:					
Ability to count and record					
Ability to add					
Ability to subtract					
Ability to multiply					
Ability to divide					
Ability to measure					
Ability to make change					
Other high quantitative/numerical skills					
Communication Skills:					
Ability to read					
Ability to spell					
Ability to record information					
Ability to communicate verbally					
Ability to communicate in written form					
Ability to listen					
Ability to utilize technical vocabulary					
Cognitive Skills:					
Ability to retain information					
Ability to perform repetitive tasks					
Ability to plan					
Ability to conceptualize the problem					
Ability to transfer learning skills					
Perceptual Skills:					
Ability to recognize shapes, including letter forms					
Ability to discriminate size					
Ability to discriminate color					
Ability to discriminate texture					
Other perceptual skills					
Trait Skills:					
Ability to follow written directions					
Ability to follow oral directions					
Ability to concentrate on tasks - length of time					
Ability to be a self starter					
Ability to make decisions					
Ability to tolerate pressure					
Ability to respond to change					
Ability to accept supervision					
Ability to compete					
Ability to cooperate with others					
Ability to work with things					
Ability to work with ideas					
Ability to express oneself orally					
Ability to express oneself in writing					
Ability to work alone					
Ability to work as part of a team					

North Orange County Regional Occupational Program

2360 West La Palma Avenue / Anaheim, California 92801 (714) 776-2170

NOCROP
10 Years

SUPPLEMENT TO TELEPHONE SURVEY JOB MARKET ANALYSIS (continued)

PHYSICAL REQUIREMENTS

Mobility:
___ None required
___ Minimal
___ Required
___ Continual

___ Must Drive
___ Drive/own vehicle
___ Sitting
___ Sitting/Standing
___ Sitting/Standing/Bending
___ Sitting/Standing/Bending/Climbing

Dexterity:
___ None Required
___ Minimal
___ Required
___ Continual

___ Gross Motor Dexterity/one side of the body
___ Gross Motor Dexterity/both sides of the body
___ Gross Motor Dexterity/one hand
___ Gross Motor Dexterity/both hands
___ Fine Motor Dexterity/one hand
___ Fine Motor Dexterity/both hands

Strength/ Stamina:
___ None Required
___ Minimal
___ Required
___ Continual

___ Ability to work 4 hours
___ Ability to work 8 hours
___ Ability to work 8+ hours
___ Ability to lift 25 lbs.
___ Ability to lift 50 lbs.
___ Ability to lift 75 lbs.
___ Ability to lift 100 lbs.
___ Ability to lift 100+ lbs.

Handicapped persons able to be accommodated by industry:

___ Deaf
___ Hard of Hearing
___ Mentally Retarded
___ Multi-handicapped
___ Orthopedically Impaired

___ Other Health Impaired
___ Seriously Emotionally Disturbed
___ Learning Disabilities
___ Speech Impaired
___ Visually Handicapped

APPENDIX D

AGENCIES COMPLETING THE "SPECIAL EDUCATION/VOCATIONAL EDUCATION SURVEY"

High Schools in Following Districts

Anaheim Union High School District
Brea-Olinda Unified School District
Capistrano Unified School District
Fullerton Joint Union High School District
Garden Grove Unified School District
Huntington Beach Union High School District
Irvine Unified School District
Laguna Beach Unified School District
Los Alamitos Unified School District
Newport-Mesa Unified School District
Orange Unified School District
Orange County Department of Education
Placentia Unified School District
Saddleback Valley Unified School District
Santa Ana Unified School District
Tustin Unified School District

Regional Occupational Programs

Coastline Regional Occupational Program
Central County Regional Occupational Program
North Orange County Regional Occupational Program
Capistrano-Laguna Beach Regional Occupational Program

Community Colleges

Orange Coast College
Golden West College
Coastline Community College
Saddleback College (Main Campus & North Campus)
Fullerton College
Cypress College
Santa Ana College

State Funded Habilitation Programs

California Elwyn Industries
Casa Colina Industries
Community Skills Training Center
Goodwill Industries of Orange County
Orange County Association for Retarded - Helen Nelson Center
Orange County Association for Retarded - Stylianou Center
Rehabilitation Institute of Orange County
Saddleback Community Enterprises

Other Agencies

Fairview State Hospital

APPENDIX E

JOB MARKET ANALYSES AND LABOR DATA RESOURCES

Business Newsletters, Bulletins and Annual Reports
California State Department of Employment Publications
Chamber of Commerce Publications
Data Institute
Department of Labor Publications
Dictionary of Occupational Titles, Volume IV
Economists
Employment Development Department Publications
Jobs in Demand - North Orange County Regional Occupational Program (NOCROP)
Local Newspapers, i.e., Santa Ana Register, Los Angeles Times, etc.
Occupational Conversion Handbook
Occupational Source Book - U.S. Armed Forces
Outlook Quarterlies
Projections of Employment by Industry and Occupations - California
Projections of Employment by Industry and Occupations by City/County:
  Anaheim, Santa Ana, Garden Grove
  Bakersfield/Kern County
  Imperial County
  Los Angeles/Long Beach
  Merced County
  Oxnard, Simi Valley, Ventura Standard Metropolitan Statistical Area (SMSA)
  San Bernardino/Riverside
  San Diego SMSA
  San Luis Obispo
  Santa Barbara
Related Businesses, i.e., Pacific Telephone, etc.
Related Magazines and Journals, i.e., Fortune, California Business, The Wall Street Journal, The Economist, Business Week, etc.
Related Offices, i.e., Office of Education, Vocational Education, Evaluation and Research, etc.
Standard Terminology for Curriculum - USOE
The Center for Continuing Study of the California Economy
University Forecasts, i.e., Security Pacific, Wells Fargo, etc.
Wage and Salary Report
Yellow Pages

APPENDIX F

PERCENT OF AGENCIES OFFERING VOCATIONAL PROGRAMS IN ORANGE COUNTY

VOCATIONAL PROGRAM	% OF AGENCIES OFFERING PROGRAM
AGRICULTURE	
Agricultural Production	24%
Agricultural Supplies/Services	14%
Agricultural Mechanics	7%
Agricultural Products	10%
Ornamental Horticulture	31%
Agricultural Resources	7%
Forestry	7%
Other	17%
DISTRIBUTION AND MARKETING	
Advertising Services	17%
Apparel and Accessories	28%
Automotive	21%
Finance and Credit	17%
Floristry	3%
Food Distribution	7%
Food Services	31%
General Merchandise	31%
Hardware, Building Materials	10%
Home Furnishings	14%
Hotel and Lodging	14%
Industrial Marketing	3%
Insurance	3%
International Trade	3%
Personal Services	0
Petroleum	0
Real Estate	10%
Recreation and Tourism	17%
Transportation	7%
Other	7%
HEALTH OCCUPATIONS	
Dental Assistant	17%
Dental Hygienists (Asso.)	3%
Dental Laboratory Technology	14%
Medical Laboratory Technology	17%
Other Medical Laboratory Tech.	0
Nurse, Associate Degree	7%
Practical (Vocational) Nurse	7%
Nurses' Assistant (Aide)	17%
Occupational Therapy	7%
Physical Therapy	7%
Radiologic Technology	7%
Environmental Health	0
Mental Health Technology	0
Inhalation Therapy Technician	7%
Medical Assistant	21%
Health Aide	10%
Other	17%

VOCATIONAL PROGRAM	% OF AGENCIES OFFERING PROGRAM
CONSUMER AND HOMEMAKING	
Child Development	41%
Clothing and Textiles	41%
Consumer Education	34%
Family Relations	17%
Food and Nutrition	48%
Home Management	17%
Housing and Home Furnishing	24%
Other	17%
OCCUPATIONAL PREPARATION	
Care and Guidance of Children	45%
Clothing, Management, Production and Services	14%
Food Management, Production and Services	38%
Home Furnishing, Equipment and Services	7%
Institutional and Home Management and Supporting Services	3%
Other	3%
OFFICE OCCUPATIONS	
Accounting and Computing	59%
Business Data Processing Systems	38%
Filing, Office Machines and General Office Clerical	66%
Information Communications	3%
Materials Support, Transporting, Storing, and Recording	7%
Personnel, Training, and Relating	7%
Stenographic, Secretarial, and Related	52%
Supervisory and Administrative Management	7%
Typing and Related Occupations	62%
Other	17%
TECHNICAL	
Aeronautical Technology	3%
Architectural Technology	10%
Automotive Technology	21%
Chemical Technology	3%
Civil Technology	0
Electrical Technology	3%
Electronics Technology	14%
Electro-mechanical Technology	3%
Environmental Control Technology	3%
Industrial Technology	0

(Continued on next page)

VOCATIONAL PROGRAM	% OF AGENCIES OFFERING PROGRAM
TECHNICAL CONTINUED	
Instrumentation Technology	0
Mechanical Technology	10%
Metallurgical Technology	3%
Scientific Data Technology	0
Commercial Pilot Training	7%
Fire and Safety Technology	7%
Forestry Technology	0
Oceanographic Technology	3%
Police Science	7%
Air Pollution Technology	0
Water and Waste Water Technology	7%
Other	3%
TRADES AND INDUSTRY	
Air Conditioning	7%
Appliance Repair	7%
Body and Fender	17%
Mechanics, Automotive	55%
Other Automotive	14%
Aviation Occupations	10%
Blueprint Reading	10%
Business Machines Maintenance	0
Commercial Art Occupations	17%
Commercial Fishery Occupations	0
Commercial Photography Occupations	17%
Carpentry	41%
Electricty	14%
Masonry	7%
Plumbing and Pipefitting	3%
Other Construction and Maintenance	21%
Custodial Services	17%
Diesel Mechanic	7%
Drafting Occupations	48%
Electrical Occupations	0
Electronic Occupations	21%
Fabric Maintenance Services	0
Foremanship, Supervision, and Management Development	0
Graphic Arts Occupations	28%
Industrial Atomic Energy	0
Instrument Maintenance and Repair Occupations	3%
Maritime Occupations	0
Metalworking Occupations	31%
Metallurgy Occupations	0
Barbering	0
Cosmetology	21%
Other Personal Services	3%
Plastics Occupations	14%

VOCATIONAL PROGRAM	% OF AGENCIES OFFERING PROGRAM
TECHNICAL CONTINUED	
Fireman Training	10%
Law Enforcement Training	14%
Other Public Services	3%
Quantity Food Occupations	28%
Refrigeration	3%
Small Engine Repair	24%
Stationary Energy Sources Occupation	0
Textile Production and Fabrication	0
Leather Working	0
Upholstering	0
Woodworking Occupations	34%
Other	10%
WORK EXPERIENCE EDUCATION	
Exploratory Work Experience Education	38%
General Work Experience Education	52%
Vocational Work Experience Education (currently enrolled in a related Vocational Class)	31%
Vocational Work Experience Education (not currently enrolled in a related Vocational Class)	17%

APPENDIX G

LEAST RESTRICTIVE ENVIRONMENTS/VOCATIONAL PROGRAM OPTIONS

Regular Vocational Education Program
- little or no modification

Adapted Vocational Education Program
- materials and/or curriculum modified
- individualized and/or programmed instruction
- specialized instruction
- extended supervision and/or change in working style and/or environment

Adapted Vocational Education Program Plus Remedial Services
- remediation of basic education as related to vocational subject matter
- tutorial services and/or assistance
- use of teacher aides
- team teaching of special and vocational education teachers in vocational programs
- vocational evaluation to determine prerequisites to succeed in adapted or regular vocational program and/or job readiness
- extended community involvement

Special Vocational Education Program
- self-contained programs which offer services not possible in a regular vocational education class
- basic emphasis on prevocational skills

Special Vocational School
- established solely for the purpose of vocational education of the handicapped
- usually physically removed from the regular school setting
- basic emphasis on prevocational skills and entry level job skills

Sheltered Workshop
- provides supervised work and training for those individuals not capable of engaging in competitive work experiences
- may or may not be in conjunction with school programs

Vocational Training in Institutional Settings
- offered as part of the total educational program in an institutionalized setting

*PLEASE NOTE THAT THIS INFORMATION IS BASED SOLELY ON EMPLOYER'S PERCEPTION AND CURRENT UNDERSTANDING OF SPECIFIC HANDICAPPING CONDITIONS.

APPENDIX H

JOB TITLE	Handicapped that could be accommodated by industry	LABOR MARKET DEMANDS 1 - lowest 5 - highest (1)	(2)	(3)	(4)	(5)
Animal Care Occupations	HOH, LD, SI, VH (min)			X		
Automotive Occupations Air Conditioning Mechanic, Auto. & Access. installation	SI				X	
Auto Mechanic, General & Specialist	HOH (mild) SI			X		
Auto Body Repairer, Auto Painter	HOH, SI		X			
Auto Parts Clerk	HOH, OI			X		
Emmissions Central, Tune-Up Specialist	SI				X	
Service Station Attendant, Full Serv. Lubrication Specialist	HOH, OI (mild), OHI			X		
Service Station Attendance, Self Serv.	OI, OHI			X		
Basic Occupational Training Assembler, Small Parts	D-B HOH, MR, MH, OI, OHI, SED, LD, SI		X			
Assembler, Small Products	D-B, HOH, MR, MH, OI, OHI, SED, LD, SI	X				
Assembler, Toys & Games	D-B, HOH, MR, MH, OI, OHI, SED, LD, SI		X			
Janitor, Helper	D, HOH, MR, OHI, SED, LD, SI, VH (moderate)			X		
Packager, Hand	D, HOH, MR, OI, OHI, SED, LD, SI, VH (mod			X		
Packager, Machine	D, HOH, MR, MH, OI, OHI, LD, SI		X			
Packer, Sealing Machine	D, HOH, MR, MH, OI, OHI, SED, LD, SI		X			
Sorter/Pricer	D-B, HOH, MR, OI, OHI, SED, LD, SI		X			
Beauty Related Sales Occupations Cosmetic Sales Person	OI, OHI		X			
Beauty Equipment Clerk	HOH (minimal) OHI	X				
Beauty Supply Sales Clerks	OHI		X			
Demonstrator	OHI			X		
Appointment Clerk (Receptionist)	OH, OHI				X	
Beauty Salon Management Asst.	OHI		X			
Wig Sales Person	OI, OHI		X			
Communications/Media Occupations			X			

Legend:
D - Deaf
D-B - Deaf-Blind
HOH - Hard of Hearing
LD - Learning Disabilities
MH - Multi-handicapped
MR - Mentally Retarded
OHI - Other Health Impaired
OI - Orthopedically Impaired
SED - Seriously Emotionally Disturbed
SI - Speech Impaired
VH - Visually Handicapped
min - minimal
mod - moderate

JOB TITLES	Handicapped that could be accommodated by industry	LABOR MARKET DEMANDS 1 - lowest 5 - highest (1)	(2)	(3)	(4)	(5)
Computer Occupations						
Computer Operator, Console	D, HOH, OI, OHI, SI, VH (w/adaptive devices)			X		
Computer, Peripheral Equipment Operator	D, HOH, OI, OHI, SI, VH (w/adaptive devices)				X	
Computer Programmer	D, HOH, OI, OHI, SI, VH (w/adaptive devices)		X			
Computer Systems Analyst	D, HOH, OI, OHI, SI, VH (w/adaptive devices)				X	
Data Code Operator	D, HOH, OI, OHI, SI, VH (w/adaptive devices)		X			
Programmer Trainee	D, HOH, OI, OHI, SI, VH (w/adaptive devices)		X			
Terminal Operator	D, HOH, OI, OHI, SI, VH (w/adaptive devices)			X		
Terminal System Operator	D, HOH, OI, OHI, SI, VH (w/adaptive devices)				X	
Construction Occupations						
Indoor						
Accoustical Carpenter	HOH, MH, OI, OHI, LD, SI	X				
Asphalt Tile Floor Layer	HOH (min), OHI, LD (min) SI (mod), VH (min)	X				
Carpet Layer	HOH (min),OHI, LD (min) SI (mod), VH (min)		X			
Drywall Finisher	HOH, OI, OHI, LD, SI, VH (mod)1 leg/1 arm (WAD)		X			
Finish Carpenter	HOH (mod), OHI, LD, SI (min)	X				
Floor & Wall Applier, Liquid	HOH (min), OHI, LD(mod) SI (mod), VH(min)	X				
Floor Finisher	HOH (min), OHI, LD(mod) SI (mod), VH(min)	X				
Floor Layer	HOH (min), OHI, LD(min) SI (mod), VH (min)		X			
Hardwood Floor Installer	HOH (mod), OHI, SI (min)	X				
Tile Setter	HOH, OHI, LD (min), SI (mod), VH (min)	X				
Indoor/Outdoor						
Carpenter	HOH (min), OHI, SI (min), VH (min)		X			
Drywall Application	HOH, OI, OHI, LD, SI, VH (mod), 1 leg/1 arm (WAD)		X			
Outdoor						
Bricklayer	HOH (min), OHI, SI (min), VH (min)			X		
Cement Mason	HOH (min), OHI, LD(min), SI (mod), VH (min)			X		
Construction Worker I	OHI, LD (min), SI (mod), VH (min)		X			
Electrician-Helper	OHI, LD (min), SI(mod), VH (min)		X			
Glazier	HOH (min), OHI, LD(min), SI (mod), VH (min)	X				

Legend: D - Deaf
D-B - Deaf-Blind
HOH - Hard of Hearing
LD - Learning Disabilities
MH - Multi-handicapped
MR - Mentally Retarded
OHI - Other Health Impaired
OI - Orthopedically Impaired
SED - Seriously Emotionally Disturbed
SI - Speech Impaired
VH - Visually Handicapped
min - minimal
mod - moderate

JOB TITLE	Handicapped that could be accommodated by industry	LABOR MARKET DEMAND 1 - lowest 5 - highest				
		(1)	(2)	(3)	(4)	(5)
Construction - Outdoor						
Pipe Fitter	OHI, LD (min), SI (mod), VH (min)		X			
Plasterer	HOH(min), OHI, LD(min) SI(mod), VH(min)	X				
Plumber	HOH(min),OHI, LD(min) SI (mod), VH (min)		X			
Roofer	OHI, LD(min)		X			
Stonemason	HOH(min),OHI, LD(min) SI(mod), VH(min)	X				
Cosmetology						
Beauty Salon Receptionist/Mgt. Aide	OI			X		
Cosmetician		X				
Cosmetologist				X		
Instructor, Vocational Training		X				
Manicurist	Feasible for some handicaps		X			
Custodial Occupations						
Carpet or Rug Cleaner	HOH, OHI, LD, SI	X				
Cleaner	HOH, LD, SI			X		
Cleaner, II	HOH, SI, LD				X	
Cleaner, Hospital	HOH, LD, SI				X	
Cleaner, Industrial	HOH, OI(min), OHI, LD, SI			X		
Housecleaner (Hotel & Restaurant)	HOH, LD, SI			X		
Porter I	HOH, LD, SI		X			
Window Washer	HOH, LD, SI	X				
Dental Assisting Occupations						
Assistant - Dental Lab	OI, OHI, VH (min)			x		
Dental (Chairside) Assistant	HOH(min), OI, OHI, SI(min), VH(min)				X	
Dental Receptionist						x
Diesel Mechanic						
Brake Repairer	HOH, OHI, SI			X		
Diesel Engine Tester or Erector	OHI, SI			X		
Diesel Mechanic	HOH(mod), SI					x
Electrician, Automotive	HOH, OHI, SI			X		
Fuel Injection Servicer	HOH, OHI, SI			X		

Legend:		
D - Deaf	MR - Mentally Retarded	VH - Visually Handicapped
D-B - Deaf-Blind	OHI - Other Health Impaired	min - minimal
HOH - Hard of Hearing	OI - Orthopedically Impaired	mod - moderate
LD - Learning Disabilities	SED - Seriously Emotionally Disturbed	
MH - Multi-handicapped	SI - Speech Impaired	

JOB TITLE	Handicapped that could be accomodated by industry	LABOR MARKET DEMANDS 1 - lowest 5 - highest (1)	(2)	(3)	(4)	(5)
Diesel Mechanic Hydraulic Mechanic	HOH, SI				X	
Repairer - Heavy (Auto-Truck)	HOH(mod), OHI, LD(mod), SI			X		
Transmission Mechanic	HOH(mod), OHI, LD, SI					X
Early Childhood Occupations Child Care Attendant I	HOH, LD(mod), SI(mod), VH(mod)			X		
Child Monitor I	LD(mod), SI (depends on child's age)				X	
Foster Parent II	HOH(corrected) VH (moderate)			X		
Nurse Maid I	LD(mod), SI(depending on child's age)				X	
Teacher, Nursery School II	OI					X
Electronics Occupations Electronics Assembler	D-B, HOH, MH, OI(WAD) OHI, LD, SI		X			
Electronics Technician I	D, HOH, OHI, LD, SI			X		
Electronics Technician II	HOH, OHI				X	
Electronics Technician III	OHI, SI					X
Electronics Tester I	D, HOH, MH, OI(WAD), OHI, LD, SI, VH(mod)			X		
Electronics Tester II	D, HOH, MH, OI(WAD), OHI, LD, SI, VH(mod)				X	
Radio Repairer	HOH, OI, OHI, SI		X			
Semiconductor Assembler	D, HOH, OHI, LD, SI			X		
Television Repairer	HOH(mod), OHI, SI			X		
Wire Harness Assembler	HOH, OI, OHI, SI			X		
Entertainment Pk/Tourism Airport Clerk	OHI		X			
Baker's Assistant	HOH, OHI, SI				X	
Cafeteria Attendant	OHI, VH (mod)			X		
Cook, Utility Host/Hostess	OHI, LD, SI			X		
Counter Person	OHI		X			
Culinary Host/Hostess (cashier)	OHI, SI, VH(mod)			X		
Culinary Host/Hostess (Dishup)	HOH, OHI, LD, VH(mod)			X		

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JOB TITLE	Handicapped that could be accommodated by industry	LABOR MARKET DEMANDS 1 - lowest 5 - highest (1)	(2)	(3)	(4)	(5)
Entertainment Pk/Tourism						
Culinary Host/Hostess (Fountain)	OHI, VH (mod.)			X		
Custodial Host/Hostess (Sweeper/Guest Ser.)	HOH, OHI, LD, SI, VH (mod.)			X		
Customer Service Agent (Guest Relations)	OI, OHI		X			
Flight Attendant	OHI	X				
Flight Attendant, Ramp	OHI		X			
General Clerk Personnel	HOH, OI, OHI			X		
Marker, Merchandise (Inventory Con. Clerk)	HOH, OHI, SI			X		
Miscellaneous Kitchen Aide	HOH, OHI, LD, SI, VH (mod.)				X	
Motel Aide (Restroom Attend)	HOH, OHI, LD, SI, VH (mod.)		X			
Pantry Host/Hostess	HOH, OHI, LD, SI, VH		X			
Ride Operator (Attraction Host/Hostess)	OHI		X			
Salad/Sandwich Maker	HOH, OI (min.), OHI, LD, SI			X		
Sales Clerk, Merchandising	OHI				X	
Receptionist, Airline Lounge	OI, OHI	X				
Reservations Agent	OI, OHI		X			
Telephone Sales Agent	OI, OHI				X	
Teleticketing Agent	OI, OHI, SI				X	
Ticket Agent (Ticketing Clerk)	OHI			X		
Travel Clerk	OI, OHI				X	
Gate Agent	OHI		X			
Wardrobe Laundry Attendant	HOH, OHI, LD, SI				X	
Travel Agent, Domestic, Int.	OI, OHI	X				
Floriculture Occupations						
Delivery Driver	OHI		X			
Floral Designer	D, HOH, OI, OHI LD (min.) SI (mod.)			X		
Flower, Grower	D, HOH, LD (mod.), OHI, SI, VH (min.)				X	
Laborer, Nursery	D, HOH, MR (mod.), OHI, LD (mod.), SI (mod) VH (mod)				X	

Legend: D - Deaf
D-B - Deaf-Blind
HOH - Hard of Hearing
LD - Learning Disabilities
MH - Multi-handicapped
MR - Mentally Retarded
OHI - Other Health Impaired
OI - Orthopedically Impaired
SED - Seriously Emotionally Disturbed
SI - Speech Impaired
VH - Visually Handicapped
min - minimal
mod - moderate

JOB TITLE	Handicapped that could be accommodated by industry	LABOR MARKET DEMAND 1 - lowest 5 - highest				
		(1)	(2)	(3)	(4)	(5)
Floriculture Occupations						
Nursery Worker	D (with SEE Lang), HOH (min), MR (mod), OHI, LD (min), SI (min), VH (min)				X	
Sales Associate, Florist Supplier	OHI			X		
Salesperson, Flowers	OHI		X			
Food Service Occupations						
Baker, Second(II)	HOH, OHI, LD (min), SI (mod), VH (min)					X
Bus Person/D.R. Attendant	HOH (min), MR (min), OHI, LD (mod), SI (mod), VH (min)			X		
Cashier	OI (with adaptive ramp) OHI			X		
Coffee Maker	HOH (min), OHI, SI (mod) VH (min)		X			
Cold Meat Chef	HOH, OHI, SI (min) VH (min)				X	
Cook/Restaurant	OHI				X	
Cook/Short Order/Dinner	OHI				X	
Counter Attendant	OHI, VH (min)			X		
Dishwasher	HOH (min), MR (mod), OHI, LD, SI (mod), VH (min)		X			
Host/Hostess/Advanced						X
Manager, Cafeteria/Restaurant					X	
Salad Maker/Pantry Chef	HOH (min), OHI, LD (min) SI (mod), VH (min)					X
Sous Chef	OHI					X
Waiter, Waitress	OHI, VH (min)					X
Graphics In-Plant & Offset Printing						
Art Layout Person	D, HOH, OI, OHI, SI			X		
Bindery Worker	D, HOH, OI, OHI, LD, SI	X				
Darkroom Worker	D-B, HOH, OI (mod), OHI, LD, SI		X			
Lithographic Platemaker	D, HOH, OI, OHI, SI		X			
Offset Duplicating Machine Operator	D, HOH, OHI, SI				X	
Offset Press Operator	HOH, OHI, SI, VH (slight)				X	
Phototypesetter Operator	HOH, OI, OHI, SI					X
Screen Printer	D, HOH, OHI, LD, SI			X		
Supervisor, Print Shop	OHI					X

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JOB TITLE	Handicapped that could be accommodated by industry	LABOR MARKET DEMAND 1 - lowest 5 - highest (1)	(2)	(3)	(4)	(5)
Marine Diving Occupations						
Diver			X			
Diver, Equipment Repairer or Welder				X		
Instructor, Diving			X			
Instructor, Swim				X		
Life Guard			X			
Underwater Hunter		X				
Underwater Photographer				X		
Medical/Hospital Occupations						
Admitting Clerk	OI, OHI				X	
Central Supply Aide	HOH (mod), OHI, SI (mod)			X		
Cleaner, Hospital	D, HOH, MR, OHI, LD, SI (mod), VH (mod)			X		
Dietary Aide	HOH (mod), MR (min), OHI, LD, SI (mod), VH (min)			X		
Emergency Room Assistant	OHI, VH (min)		X			
General Medical Clerk	OHI				X	
Home Health Aide	OHI, LD (mod)				X	
Insurance Clerk	HOH, OI, OHI				X	
Medical Assistant, Various	OHI, VH (min)				X	
Medical Clerical/Assistant	HOH, OI, VH				X	
Medical Records Clerk	OHI			X		
Nursing Assistant	OHI, VH (min)		X			
Occupational Aide	HOH (min), OHI, LD, VH (min)		X			
Pharmacy Helper	HOH (min), OI (min), SI (mod)			X		
Physical Therapy Attendant	HOH (mod), OHI, LD, VH (mod)			X		
Psychiatric Aide	OHI, VH (min)			X		
Social Service Aide	OH, OHI, VH (mod)			X		
Metal Fabrication						
Arc Welder/Arc Welder-MIG&TIG	HOH, SI			X		
CNC Machine Operator	HOH, SI					X

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JOB TITLE	Handicapped that could be accommodated by industry	LABOR MARKET DEMAND 1 - lowest 5 - highest				
		(1)	(2)	(3)	(4)	(5)
Metal Fabrication						
Cut Off Saw Operator	HOH, SI			X		
Engine Lathe Operator	HOH, SI			X		
Engine Lathe Set Up Operator	HOH, SI				X	
Foundry Worker	HOH, LD, SI	X				
Gas Welder	HOH, SI		X			
Grinder Operator	HOH, SI		X			
Metal Fabricator	HOH, SI				X	
Metal Fabricator/Shop Helper	HOH, LD, SI				X	
Milling Machine Operator	HOH, SI				X	
Numerical Control Machinist (Tape)	HOH, SI					X
Ornamental Metal Worker	HOH, SI			X		
Robotics Operator	HOH, SI	X				
Robotics Operator, Fork Lift	HOH, SI	X				
Robotics Repair Person	HOH, SI	X				
Robotics Technician	HOH, SI	X				
Tool Crib Attendant	HOH, SI			X		
Office Occupations						
Accounting Clerk	D, HOH, OI, OHI					X
Clerk Typist	HOH, OI, OHI					X
Data Entry Operator	D, HOH, OI, OHI, SI				X	
File Clerk	HOH (mod), OHI					X
General Office Clerk	OHI					X
Keypuncher	HOH (mod), OI, OHI		X			
Machine Transcription	OI, OHI, VH			X		
PBX Receptionist	OI, OHI, VH					X
Secretary	OHI					X
Stenographer	OI, OHI, VH		X			
Tax Preparation Clerk	OI, OHI		X			
Word Processor						X

JOB TITLE	Handicapped that could be accommodated by industry	LABOR MARKET DEMAND 1 - lowest 5 - highest (1)	(2)	(3)	(4)	(5)
Retail Occupations						
Department Store						
Adjustment Clerk	OI (min), OHI, VH (min)		X			
Cashier	HOH (mod), OHI, VH (min)				X	
Gift-Wrap/Packager	HOH (mod), OHI, LD		X			
Inventory Clerk	HOH (mod), OHI, VH (min)				X	
Lay-Away Clerk	OHI				X	
Merchandise Displayer	HOH, OHI, LD (mod), SI			X		
Sales Clerk	OHI, VH (mod)					X
Stock Clerk	HOH, LD, SI					X
Hardware Store						
Adjustment Clerk	OHI		X			
Cashier	OHI					X
Inventory	HOH (mod), OHI, SI (min) VH (min)				X	
Sales Clerk	OHI					X
Stock Clerk	D, HOH, OHI, DL (min), SI (mod), VH (min)					X
Warehouse Worker	HOH (mod), OHI, LD (min) SI (mod)			X		
Grocery Store						
Bagger	D, HOH, MR, OHI, LD, SI (min)			X		
Cashier-Checker	OHI, VH (min)					X
Departmental Management	OHI				X	
Display Clerk	D, HOH, OHI, LD (min) SI (mod)			X		
Inventory Clerk	HOH (min), OHI, SI (mod)			X		
Office Cashier	OHI				X	
Produce Clerk	HOH (min), OHI, LD (min) SI (mod), VH (min)			X		
Stock Clerk	D, HOH, OHI, LD (min), SI (mod), VH (min)				X	
Word Processing Occupations						
Word Processing Technician	D-B, HOH, OI, OHI, SI, VH					X
Word Processing Supervisor	D, HOH, OI, OHI					X
Word Processor	D-B, HOH, OI, OHI, SI, VH				X	
Word Processor, Trainee	D-B, HOH, OI, OHI, SI, VH			X		

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